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POMET'S GENERAL HISTORY OF DRUGS:

With what is farther obſerv'd by *Lemery*, *Tournefort*, and others on the ſame Subjects.

BOOK I.
Of *ANIMALS.*

PREFACE.

The Dominion which the Creator has given to Man over all Kinds of Animals of the Earth, Air, or Sea; and the Excellence of the natural Gifts, which He has given him above all other Things which have Life, have not hindered Naturaliſts who treat of Animals, from compriſing Man, at leaſt ſo far as concerns the Body, in the number of them. And the Experience, which Phyſicians in different Ages have had of the good Effects, which the Parts, or Excrements, of a dead or living human Body have had in the healing its like in many Diſeaſes, have engaged them often rather to have recourſe to it, than to what might be had of Beaſts, and to give the proper Deſcriptions and Preparations of the Parts of the human Body. And moſt Authors hitherto have, in treating of Animals, and the Preparations made from them for the Uſe of Phyſick, begun with the Deſcription of the human Body, either entire, or in its Parts, and have not ſpoken of other Animals till after their Lord.

The ſame Reaſons have alſo engaged me to imitate them here, and to place what I have to relate concerning other Animals, after what relates to him who has the Command and Diſpoſal of them.

I ſhall here decline treating of the great Lights, Knowledge, and Underſtanding, which the Creator has beſtowed on Man, and confine myſelf wholly to the Matter of the Body, and to the Things which may be found in it, living or dead, proper for the Relief of others in their Sickneſſes, and for the prolonging or preſerving their Days in Health, and to keep myſelf within the Bounds of my intended Work, and follow the Deſign I have here, of treating of only ſuch Things, as the Animal, Vegetable, and Mineral World furniſh us with, under the Name and Office of Drugs, I judge nothing can be more proper than to begin this Part of the Work with treating of Mummies, *which contain in them nearly all the Parts of the human Body.*

1 *Of* Mummies.

Pomet. AMONGST all the Teſtimonies of Reſpect, which Antiquity paid to the Bodies of the Deceas'd, that of a decent Burial was always in the moſt Eſteem; by which laſt and pious Acknowledgment, they were willing to honour and preſerve the Memory of thoſe whoſe Actions had recommended them in their Life-time, and performed a Work of Charity, tending to the Conſolation of the Living, and the Peace and Repoſe of the Dead. The wonderful Pyramids of *Egypt*, of which I ſhall ſpeak by and by; the Obeliſks engrav'd and carv'd with ſuch Pains and Induſtry; the *Mauſoleums*; and, in ſhort, all the rich and pompous Monuments, found throughout the World, are certain Proofs of the Piety and Regard of the Antients towards the Dead. But as there are ſeveral different Nations and different Religions, ſo there are particular Cuſtoms in paying their laſt Reſpect to the Deceas'd. All the Elements have been Partakers of the Spoils of the Dead, the Earth not having been thought ſufficient alone to take care of the Relicks.

Hiſtory informs us, that the Fire burnt and conſum'd the Bodies of the *Greeks*, *Romans*, *Gauls*, *Germans*, and ſeveral other Nations: That the People of *Colchis* hung their dead Bodies in the Air, upon the Branches of Trees: That the old Inhabitants of the *North* found their Graves at the Bottom of the Ocean, as the *Æthiopians* in the Currents of their Rivers; and that the People of the frozen *Scythia* were buried in the Snow. But the moſt ancient Kind of Burial was that of interring the Bodies, and we have Reaſon to believe, that *Adam* himſelf was buried after this Manner.

It was from the *Jews* that the *Chriſtians* learned the Interment of the Dead, making Pits or Graves in ſubterraneous and retired Places, call'd Tombs, or Catacombs, and moſt uſually Cemeteries, or Dormitories, that is, ſleeping Places: But before Burial they were embalm'd after a very curious and ſurprizing Manner, as ſhall be ſhewn. The firſt and moſt coſtly Kind of Embalming was valued at a Talent of Silver, which may be computed at about Eight hundred and fifty Livres, at that time of Day; but reckon'd now would amount to Eight thouſand Livres, or Five hundred Pounds Sterling and upwards.

This Embalming was us'd to none but Perſons of the firſt Quality. Three People were us'd to be employed in the Operation; one was a Kind of Overſeer, who marked out ſuch Places of the Body as were to be opened to take out the Bowels. The next was a Diſſector, who, with a Knife made of an *Ethiopian Stone*, cut the Fleſh as much as was neceſſary, and as the Law would permit, and immediately after fled away with all the Expedition imaginable; becauſe it was the Cuſtom of the Relations and the Domeſticks to purſue the Diſſector with Stones, and do him all the Injuries they could, treating him as an impious Wretch, and the worſt of Men. After this Operation, the *Embalmers*, who were reckoned as Holy Men, entered to perform their Offices; and began firſt, ſome to remove the Bowels in the upper Cavity, excepting the Heart and Reins; and others to cleanſe the lower Belly, which they waſh'd with Palm Wine, or other aromatical Liquors; and during the Space of above thirty Days, they waſh'd the Body with Balſam, Gum, or Reſin of Cedar, and fill'd it with Powder of Myrrh, Aloes, *Indian* Spikenard, *Bitumen* of *Judea*, and other Things of the like Nature; but they never us'd *Frankincenſe*, which we now call *Olibanum*; either becauſe of the great Veneration for that Drug, or by Reaſon of its Scarceneſs. As to the Head, they us'd Iron Inſtruments which they thruſt up the Noſtrils, and drew out that way all the Subſtance of the Brain; and afterwards they ſyring'd up precious and odoriferous Liquors.

The ſecond Sort of *Embalming* was reckoned at half a Talent, which was us'd to the middle Sort of People, where they contented themſelves only to ſyringe the Body, or make Injections into the Bowels of Water, or a Decoction made of Simples, or other Drugs, and Oil of Cedar; and afterwards, when the Body was thus prepar'd, to put it into Salt for Seventy Days; after which Time they took it out, and having open'd it, they drew out the Inteſtines, which were almoſt wholly conſum'd. This done, they wrapt all the Body in Bandages of fine Linen dipp'd in *Myrrh* and *Aſphaltum*; and the Overſeer, whom they call'd the *Scribe*, cover'd the Wrappings with a painted Cloth, whereon was repreſented the Rites of their Religion, in *Hieroglyphick Characters*, and the Animals which the Dead had lov'd moſt.

The Hiſtory of the Beetle.

The Principal of all thoſe Animals, or that for which the *Egyptians* had moſt Veneration, was the *Beetle*; as well becauſe of its wonderful Birth or Production, as from the Analogy or Reſemblance they pretend this Animal has with the Sun, and, indeed, however baſe and low this Animal may appear to us, as always living in Dung, he yet has a ſtrange

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Mummies.

The Designer & Overseer.

A Mummy. The Hind part.

A Pagod.

A Dissector.

An Embalmer.

A Body Embalmd.

An Egyptian Pyramid

ſtrange Inſtinct to continue his *Species*. For this little Animal breeds without the Aid or Aſſiſtance of any Female; for when the Male would produce, he ſeeks out the Dung of an Ox or Bull, and having found it, he forms a round Ball, of the Figure of the World, which with his hind Feet he turns from Eaſt to Weſt, and turning himſelf towards the Eaſt, he imitates the Motions of the World. Having thus roll'd the Ball, he puts it in the Ground, and leaves it there twenty-eight Days, which is the Time in which the Moon paſſes through the Signs of the Zodiack; and during that Time the little Beetles hatch in the Ball; and the twenty-ninth Day, which is the Day of the Conjunction of the Moon with the Sun, and the Time Productions are made in Nature, this little Animal rolls its Ball into the Water, where it opens, and the Beetles get out. It is upon this Account ſome ſay, that it is made the Emblem of *Birth*, and the Symbol of Fathers; becauſe theſe Inſects have only a Father, and no Mother. They repreſent alſo the World, becauſe of the Ball which they form and turn round; and Man, becauſe there are none but Male Beetles. They are of ſeveral Kinds, but thoſe for which the *Egyptians* have the greateſt Veneration, are ſuch as have a Head like a Cat, ſurrounded with a kind of Rays, which give Occaſion to them to believe that theſe Animals have ſome Analogy to the Sun; and the more, becauſe this Inſect has thirty little Paws, made like Fingers, which repreſent the thirty Days that the Sun takes each Month in his Courſe. As to the other hieroglyphical Characters, the Hiſtory of them is too tedious, but they may be ſeen in Father *Kircher*.

The third Sort of Embalming was for the poorer People, which was made with a Mixture of *Pitch*, and *Bitumen* of *Judæa*; or the Bodies were dried with *Lime*, or other Drugs of little Value; and ſometime they us'd *Egyptian Natrum*, *Salt*, *Honey*, and *Wax*: Sometimes likewiſe they boil'd the Bodies in Oil to conſume the Moiſture, which is the only Cauſe of the Corruption; for the Principle of Corruption, according to a learned modern Author, is a moiſt Heat, that introduces itſelf into the Fleſh by the Diſſolution of the Parts, and by the Mixture of heterogeneous Bodies, which poſſeſs the Spaces which the Heat opens and enlarges. The Air, which is hot and moiſt, is the moſt common Diſſolvent of all Bodies; and the only Way to preſerve them, is to defend them from the Air; to which we may add, that the Air being full of an infinite Number of Inſects, which we cannot perceive becauſe of their Minuteneſs, they are theſe little Inſects that adhere to the Fleſh and prey upon it; and as they eaſily increaſe, there are Seaſons wherein all the Air is full of them, eſpecially in Times of the Plague, and other malignant and contagious Diſeaſes: And it hath been obſerved, by Microſcopes, that what we call a *Gangrene* is nothing elſe but a vaſt Number of little Inſects eating the Fleſh, as Mites do Cheeſe. Therefore there is no other way of keeping Fleſh, but by excluding theſe Animals, which is done by Means of Honey, Oil, Spirit of Wine, and ſome other Liquors, that fetter and entangle, or burſt theſe Inſects.

But the Curioſity of the ancient *Egyptians* went much further, becauſe of the great Veneration they had for their deceas'd Relations, which they ſuffered not to be interr'd, or conveyed out of their Sight, but rather ſought out Ways to have them continually before their Eyes, to the End that they might imitate their Actions; that is to ſay, live according to the Honeſty and Integrity of their departed Friends, having ſuch Regard to their Actions as to make them the Rule of their future Conduct.

For which Reaſon, when any of their Kindred died, they manag'd them ſo exquiſitely, and dried them after ſuch a Manner, that their Bodies became as hard as Marble Statues, and they called them in their Language, *Gabbaras*, which ſignifies *Mummies*; and their Art of preparing them was ſo nice, that nothing in them was disfigur'd. They would paint their Faces of the ſeveral Colours; after they had been embalm'd, their Arms were placed acroſs, the one upon the other, and bound about with fine Linen, which had been before dipt in aromatical Gums; and then they put upon the Head a Napkin, like a Woman's Coif, that hung down on both Sides upon the Breaſt, and behind upon the Shoulders. They had beſides, under the Chin, a twiſted Neck-cloth, that ſerved to ſqueeze their Cheeks together, and tie their Jaws cloſe, ſo that they could not fall; and thus they appear'd rather like Perſons aſleep than dead.

If by any Sickneſs they were disfigur'd, they clapt over their Faces Maſks of Paſteboard, or of painted Cloth, reſembling the dead Perſon, and embelliſh'd or adorn'd with the ſeveral Colours. On the contrary, if the Perſon was not disfigur'd, they left the Face and Ears naked, and ſo painted them as they pleas'd. The Dead being thus order'd, they were put in great Caſes of Glaſs made on purpoſe, according to the Grandeur of the Perſon; afterwards they plac'd them in the moſt elevated or higheſt Part of their Houſes. And this they reckon'd ſuch a valuable Pledge and Token of their Faith, that if any of

them happen'd to want Money, he could not give a better Security than the embalmed Body of his Relation in its Caſe; and that which made it eſteem'd ſo, was, that they would ſpare no Pains to pay the Money again; for if by Miſchance the Debtor could not redeem this Pledge, he was reckoned unworthy of Civil Society, which engag'd him indiſpenſably to find out Ways to recover his Kinſman in the Time limited, otherwiſe he was condemn'd by all the World.

The *Egyptians* were at other Times at a great many other Expences for preſerving their Bodies: For after they were embalm'd (though not dried) with ſeveral precious Drugs, and wrap'd about with a great deal of fine Linen; as ſometimes they us'd above two hundred Ells of Bandage, ſo that nothing was ſeen but the Face, and ſometimes nothing at all; they were likewiſe put up in Boxes or Coffins of precious Wood, which the Dead had caus'd to be made while living, together with the Idol or Pagod, which they worſhipp'd in their Life-time, and before they were buried the Nails of their Hands and Feet were ſtained red with *Alkanet*. The Idols or Pagods were made of Gold, and Silver, and other Metals, but moſt uſually of the Clay of the Country, with hieroglyphical Characters, which denoted the Quality of the Dead, the Charge of the Embalming, the Time of their Death, and the Place from whence they came.

After they had ſhut up the Coffins of their deceas'd Friends, they carried them, with great Pomp, into the Places which they had cauſed to be built in their Life-time, as is to be ſeen at this Day by the Pyramids of *Egypt*, which are two or three Leagues from *Grand Cairo*. And Hiſtorians relate, that *Chemmis*, King of *Egypt*, made one, about which an hundred thouſand Men were employed for twenty Years, which was of a ſquare Figure, and the Face or Front on each Side of the Baſis, was eight hundred Foot broad, and of the ſame Height, in which was a perpetual Lamp. We may ſee, by this, what Care was taken of the Dead; and we ought to undeceive thoſe who are ſo credulous as to believe, that thoſe are true *Mummies* which are brought us to ſell again as a Commodity, they being only Bodies pitched over, as we ſhall relate preſently.

Beſides theſe pretended *Mummies*, and the former, we meet with another Sort; thoſe of *Africa*, which are call'd white *Mummies*, and are nothing elſe but the Bodies of thoſe that are drowned in the Sea, which being caſt upon the *African* Coaſt, are buried and dried in the Sands, which are very hot; and though they have been luſty Men in their Lives, after they have lain ſome Time there, they weigh not above thirty Pounds, and are then in a Condition of keeping for ever. There is one in *Paris*, in the Cabinet of Mr. *Boudet*, Nephew to Mr. *Boudet* the King's Phyſician. Theſe *Mummies* are little us'd, becauſe they are both dear, and have little or no Virtue in them.

We ſhall next give ſome Account of the *Jews* carrying on their Rogueries, as to theſe *Mummies*, and after them the *Chriſtians*. I ſhall firſt obſerve, then, that the *Mummies* that are brought from *Alexandria*, *Egypt*, *Venice*, and *Lyons*, are nothing elſe but the Bodies of People that die ſeveral Ways, whether bury'd or unbury'd, that are afterwards embowell'd, and have their ſeveral Cavities fill'd with the Powder, or rather Sweepings of Myrrh, Caballine Aloes, Bitumen, Pitch, and other Gums, and then wound about with a *Cerecloth* dipt in the ſame Compoſition. The Bodies being thus prepar'd, are put into an Oven to conſume all their Moiſture; and being well dried, are brought and ſold here for true *Egyptian Mummies* to thoſe who know no better, and don't underſtand that the *Egyptians* put the greateſt Value imaginable upon their Dead, and that what they did in this Kind was to preſerve the Memory of their Friends, and not to make a Trade of them. To prove what I ſay, I ſhall relate what Mr. *Guy de la Fontaine*, the King's Phyſician, and after him *Ambroſe Parey* have ſaid.

The Sieur *Guy de la Fontaine*, being at *Alexandria* in *Egypt*, went to ſee a *Jew* in that City, who traded in *Mummies*, that he might have ocular Demonſtration of what he had heard ſo much of. Accordingly, when he came to the *Jew's* Houſe, he deſired Leave to ſee his *Mummies*; which he having obtain'd with ſome Difficulty, the *Jew* at laſt opened his Magazine, or Store-houſe, and ſhew'd him ſeveral Bodies piled one upon another. Then after a Reflection of a Quarter of an Hour, he aſk'd him what Druggs he made uſe of? and what Sort of Bodies were fit for his Service? The *Jew* anſwered him, that as to the Dead he took ſuch Bodies as he could get, whether they died of a common Diſeaſe, or of ſome Contagion: And as to the Drugs, that they were nothing but a Heap of ſeveral old Drugs mix'd together, which he apply'd to the Bodies; which after he had dried in an Oven he ſent into *Europe*; and that he was amazed to ſee the *Chriſtians* were Lovers of ſuch Filthineſs.

This is very different from what the ancient Phyſicians imagined, when they preſcribed *Mummy*. But as I am not able to ſtop the Abuſes committed by thoſe who ſell this Commodity, I ſhall only adviſe ſuch as buy, to chuſe what is of a fine

a fine ſhining Black, not full of Bones or Dirt, of a good Smell, and which being burnt, does not ſtink of Pitch. This is reckoned proper for Contuſions and to hinder Blood from coagulating in the Body; it is alſo given in Epilepſies, Vertigoes, and Palſies, the Doſe is two Drams in Powder, or made into a Bolus. It alſo ſtops Mortifications, heals Wounds, and is an Ingredient in many Compoſitions.

Some Authors will have it, that the Fat, mix'd with *Bitumen* that flows from the Tombs, is the *Aſphaltum* and true *Mummy*; and others ſay that it is the preſerv'd Fleſh, which was brought into Uſe by a *Jewiſh* Phyſician, who wrote, That the ſaid Fleſh, thus preſerv'd and embalm'd, ſerv'd for the Cure of ſeveral Diſeaſes. They have likewiſe given the Name of *Mummy* to ſeveral natural Bitumens; as that of *Judæa*, and thoſe which flow from ſeveral Mountains of *Arabia*, and other hot Countries: But thoſe Appellations are very improper, they being fat, viſcous, ſtinking Humours, that breed in the Entrails of the Earth.

Of other Preparations made from Human Bodies.

Beſides the *Mummy* that is met with in the Shops, we ſell human Fat or Greaſe, which is brought us from ſeveral Parts; but, as every Body knows in *Paris*, the publick Executioner ſells it to thoſe that want it; the Druggiſts and Apothecaries ſell very little: Nevertheleſs they vend a Sort of it that is prepar'd with aromatical Herbs, and which is, without Compariſon, much better than that which comes from the Hands of the Hangman. This *Adeps*, or *Axungia*, is reckon'd very good for Rheumatiſms, and other Diſeaſes proceeding from a cold Cauſe. Beſides the Fat, we ſell the fix'd and volatile Salts of the Blood, Scull, Hair, and Urinè, and other Chymical Preparations, to be found in Mr. *Charas's Royal Pharmacopœia*, *&c.* which thoſe who deſire to know further about theſe Preparations, may have recourſe to. As to the Choice of all theſe, the only Rule is to buy them of honeſt People, for otherwiſe the beſt Judges may be deceived in them.

Man's Greaſe is emollient, diſcuſſive, anodyne, and antiparalytick. It is good againſt the Gout, and contracted Nerves, made into an Ointment, as follows: Man's Greaſe, two Pounds; Gum Elemi, half a Pound; Bees-Wax and Turpentine, of each one Pound; Balm of *Gilead* or *Peru*, four Ounces; mix and make an Ointment, by melting all together. Man's Skull is a ſpecifick Medicine in the Cure of the Falling-ſickneſs, and indeed of moſt Diſeaſes of the Head, taking of the crude Powder, raſp'd from the freſh Bone of the Skull, one Scruple or two, in any proper ſpirituous Liquor. The Oil and volatile Salt are for the ſame Purpoſes, but in leſs Quantities.

Of the Moſs upon the Human Skull.

The *Engliſh* Druggiſts, eſpecially thoſe of *London*, ſell the Heads or Skulls of the Dead, upon which there is a little greeniſh Moſs, which is call'd *Uſnea*, becauſe of its near Reſemblance to the Moſs that grows upon Oaks; and as Mr. *Charas* ſtaid a conſiderable Time in *England*, and ſaw great plenty of them, I have only related what he told me on this Subject. This Moſs is an Excreſcence that grows two or three Lines high, on the top of and round Men's Skulls who have died violent Deaths, and lain ſome Time on the Ground, or hung on Gibbets, or the like. It only begins to grow when the fleſhy Subſtance about the Skull is waſted away. The *Engliſh* Druggiſts generally bring theſe Heads from *Ireland*; where they frequently let the Bodies of Criminals hang on the Gibbet till they fall to Pieces. You may ſee in the Druggiſts Shops of *London*, ſome of theſe Heads entirely cover'd with Moſs, and ſome that only have the Moſs growing on ſome Parts; and we ought not to be ſurpriz'd at the Growth of this Moſs on the Skulls of dead Men unburied; ſince we daily ſee the Hair of the Head, Beard, and ſome other Parts of the human Body, grow after Death, as long as there is any Moiſture left to ſupply Nouriſhment to the Part; and that the ſame thing happens to the Nails is evident; but whether it will hold as to the Teeth, as ſome pretend, I dare not venture to affirm. The ſame Druggiſts ſend to foreign Countries, eſpecially *Germany*, theſe Skulls covered with Moſs, to put into the Compoſition of the ſympathetick Ointment, which *Crollius* deſcribes in his *Royal Chymiſt*, and which is very available in the Cure of the Falling-ſickneſs. Some Virtues are alſo attributed to the Skulls taken from Gibbets, but in all Probability the Heats and Colds of the Seaſons have diſſipated the greater Part. The Skulls of Criminals newly hang'd, ſtripp'd of the fleſhy Membrane, and the Brains taken out, being well waſhed and dried, and ſeparated with a Saw from the lower Part, are, or ought to be, what the Druggiſts ſell by the Name of *Human Skull*.

A Mummy is the dead Body of a Man, Woman, or Child, which is embalm'd and dried. The firſt Mummies were taken from the Burying-places of the ancient *Lemery*.

antient *Egyptians*, near the Pyramids, where the fineſt were to be ſeen a few Leagues from *Grand Cairo*. This embalming was made with Balſams, Reſin of Cedar, *Jews* Pitch, Myrrh, Aloes, and ſeveral other aromatical Ingredients, capable to dry up the Humidity or Moiſture of the Fleſh, to ſtop the Pores, and prevent the Air from entering, and to reſiſt Putrefaction. We uſe at this Day almoſt the ſame Drugs for embalming dead Bodies; but whether it was that their Drugs were better than ours, or that they had a more perfect Method of embalming than we have, or that their Burying-places were drier, more impregnated with Salts and Bitumen; or leſs ſubject to Putrefaction, their embalm'd Bodies laſted vaſtly longer without Corruption, than thoſe we do at preſent, if we dare believe Tradition; for they pretend to ſhew us *Egyptian Mummies*, of near four thouſand Years Duration; whereas we take a great deal of Pains in theſe latter Ages, to preſerve them two or three hundred Years.

And here it may not be improper to give an Account of the modern Way of embalming, from Mr. *Dionis's* Courſe of Chirurgical Operations. Embalming is an Operation almoſt as antient as the World, and which has been practiſed in all Ages; and either out of a venerable Regard to their Relations, or a Principle of Religion, Men have always endeavoured to preſerve their Dead; of the Truth of which *Arabia* and *Egypt* have furniſh'd an infinite Number of Inſtances; but at preſent we embalm none but the Rich and Great, whoſe Relations only are willing to be at that Expence.

Mr. *Penicher*, a *Pariſian* Apothecary, has given us a Treatiſe of Embalming, according to the Practice of both the Antients and Moderns, which conſiſts of ſeveral learned Enquiries on this Subject: He relates the Stories of the Embalming of *David*, *Alexander*, and ſeveral others; wherefore I refer you to him for the Satisfaction of your Curioſity; but, talking indeed like an Apothecary, he gives us ſo many Sorts of balſamick Powders, that he would very much puzzle us which to chuſe, if we did not know that they are almoſt all alike. He further pretends, that it is the Apothecary's Right to preſide in Embalming; that the Compoſition and Application of the balſamick Matters belongs to him; and that the Surgeon is preſent for no other End than to make the Inciſions, and fix on the Bandages which he preſcribes; but daily Practice overthrows what this Author pretends to advance. 'Tis the Surgeon only who embalms; 'tis he who is charg'd with the whole Operation; and after the Apothecary has prepar'd what he requires, he is not to concern himſelf any further in it, unleſs he will attend as one of the Surgeon's Apprentices or Aſſiſtants, to hand to him what he has Occaſion for.

Mr. *Penicher* cites, as a Precedent for Embalming, that performed on the Dauphineſs. We are not to be ſurpriz'd if his Relation is not exactly juſt in ſeveral Circumſtances; he tranſcrib'd it from a Memorial which the Apothecary to that Princeſs gave him; and its Author believing Pharmacy ſo much above Surgery, that the latter could not diſpute it, has by this Memorial taken all advantageous Hints which ſeemed to him to favour his Opinion. But having performed that Embalming myſelf, none can be a better Evidence in this Caſe, the particular Relation of which, to avoid Repetition, I forbear here, becauſe the Method which I ſhall lay down, of performing a complete *Balſamation*, will inform you of all that paſſed at that of the Dauphineſs.

After the Opening of the Body, and the drawing up, and ſigning of the Relation of the Particulars to be obſerv'd with regard to the Body, the Phyſicians and Surgeons withdraw, leaving to the operating Surgeon the Care and Direction of the Embalming; wherefore, all depending on him, he cauſes to be brought into the Chamber where the Corps is, all the neceſſary Ingredients and Inſtruments for that Operation; and which we know to be of three Sorts: Firſt, thoſe which the Plummer is to make; ſecondly, what belongs to the Surgeon; and, thirdly, thoſe which relate to the Apothecary.

The Plummer being ſent for, comes to take the Surgeon's Order about the Size of the Coffin; becauſe if he ſhould content himſelf with taking Meaſure of the Body, that Caſe would prove too little to hold it after embalming: He beſpeaks of him a leaden Barrel to put the Entrails into; and alſo a leaden Box made of two Pieces, to ſhut, to contain the Heart after it is embalmed; ordering him to bring all of them to the Chamber where the Corps is, at the Hour which he appoints. The principal Part of the Surgeon's *Apparatus* conſiſts in Bands; for the Inſtruments are the ſame which are us'd in opening of the Body. The Surgeon then is to prepare five Bands; two of three Fingers Breadth and four Ells long, to bind the Arms; two of four Fingers breadth and ſix Ells long each, to bind the Legs and Thighs; and one yet broader and longer, to perform the neceſſary Circumvolutions about the Body. 'Tis the Apothecary's Buſineſs to furniſh, firſt, the aromatical Plants well pulveriz'd in a Mortar; ſecondly, the Gums and odoriferous Drugs beaten to a fine Powder; and, thirdly, a Liniment to rub over and anoint the Body.

The

The firſt or coarſeſt Powder, which ſerves to fill the great Cavities, and to be put in with the Entrails, is compos'd of four or five and twenty different Plants; to which end we make uſe of the Leaves of ſome of them, the Roots or Flowers of others, and the Rinds, Barks, or Seeds of others. The moſt proper, and the moſt eaſy to be gotten, are the Leaves of Laurel, Roſemary, Sage, Baum, Wormwood, Marjoram, Hyſſop, wild Thyme, Baſil; Roots of Orrice, Angelica, Calamus Aromaticus; the Flowers of Roſes, Camomil, Melilot, Lavender, Lemon and Orange Peel; the Seeds of Aniſe, Fennil, Coriander, and Cummin: To all which, when well powder'd, are to be added ſo many Pounds of common Salt, as to encreaſe the whole to thirty Pounds Weight. Of the other, which is the fineſt Powder, there muſt be ten Pounds, and it is to be compoſed of ten or twelve odoriferous Drugs, which are proper to preſerve the Body for the Space of ſeveral Ages; they are Myrrh, Aloes, Frankincenſe, Benjamin, Storax Calamita, Cloves, Nutmegs, Cinnamon, white Pepper, Sulphur, Alum, Salt Petre; all which are to be well powdered, and paſſed through a Sieve. The Liniment is to be compoſed of Turpentine, Oil of Laurel, liquid Storax, and Balſam of *Capivy*, by reaſon that of *Peru* is ſo ſcarce, that it alone would coſt more than all the embalming Ingredients. Three Pounds of this Liniment are ſufficient to make the neceſſary Embrocations. Beſides theſe three Articles, the Apothecary is to provide three or four Pints of Spirit of Wine, five or ſix great Bundles of Tow and Cotton, two Ells of the broad Cerecloth, and a large Bundle of coarſe Cord. The Surgeon provided with all theſe Preparations, is ready to begin the Embalming, which he executes in the following Manner.

Having ordered to be ſet near him the leaden Barrel, the Surgeon takes ſome Handfuls of the coarſer Powder, and ſpreads it over the Bottom of the Barrel, and above that ſpreads Part of the Entrails; then lays another Row or Bed of that Powder, and then another Lay of the Entrails, thus continuing on, *Stratum ſuper Stratum*, till he has laid into the Barrel all the Parts which were contained in the Head, Breaſt, and Belly, except the Heart, which he ſeparates, and puts to ſoak in Spirit of Wine, till he has finiſhed the whole Body. When he embalms that in particular, he muſt remember to end with a Lay of Powder, and if the Barrel is not full, he is to fill it up with a Bundle of Tow; but if the Plummer has made it too high, the Operator is to order him to cut off all of it that is too long, that the Cover being ſoldered on, no Part of it may remain empty.

The three Venters or Cavities being thus evacuated, we are to waſh them with Spirit of Wine, before we fill them up; which done, we begin with the Head, filling up the Skull with the Powder and Tow mix'd together; and having got in as much as it can contain, we put it again into its Place; and before we ſew the hairy Scalp over it, we put betwixt them ſome of the finer or balſamic Powder. We pour ſome Spirit of Wine into the Mouth to waſh it, and then fill it with the ſame Powder and Cotton; we do the ſame to the Noſtrils and Ears, and then with a Pencil or Bruſh we embrocate the Face, Head, and Neck, with a Liniment; and after ſtrewing the fine Powder on all thoſe Parts, we form a Cruſt over the whole Superficies. With the Powder and Tow the Operator fills up the Breaſt and Belly, which is now but one large Cavity; for in taking out the Entrails he has before taken out the *Diaphragm*, which ſeparated them one from another. He is not here to be ſparing of his Powders, which muſt prevail in this Part, the Tow being only made uſe of to bind and keep them together. He returns the *Sternum*, and after having cover'd it with the fine Powder, which he alſo thruſts betwixt the Ribs and Tegument, he performs the Suture with a Needle, from the Neck to the *Os Pubis*, and a tranſverſal one, from one of the lumbary Parts to the other. With a Pen-knife we make around the Arm four large Inciſions of half a Foot long each, and as deep as to the Bone, and as many on the Wriſt; theſe we waſh with Spirit of Wine, and fill with the odoriferous Powder. We cover the Arm with the Liniment with the ſame Pencil, and gently ſtrow over it the ſame Powders, which eaſily ſtick on by reaſon of the Liniment. We then take a Band, with which we begin at the Hand, rolling it very tight up to the Shoulder, where it is to end, and be faſtened. Whilſt the Operator is thus employ'd about one Arm, an Apprentice is to do the ſame to the other, conformable to his Example.

The ſame Operation is to be performed to the Thighs and Legs, with this Difference only, that the Inciſions are to be longer, deeper, and more numerous than in the Arms. Theſe Parts, thus cut, look like *Switzers Breeches*. After they have ſufficiently imbib'd the Spirit of Wine, they are to be fill'd with aromatical Powders; the Liniment applied to them, and the Powders over them, the Operator rolls on the Band on one Thigh, whilſt a Servant applies another on the contrary: Theſe two Bands begin at the Feet, and terminate at the Groin. We then turn the Body to make the like Inciſions on the Back, at the Region of the Reins, and on the Buttocks; and if the Corps be fat, we are alſo to do the ſame around the Belly and Breaſt. The Lotions, Embrocations,

tions, and Application of Powders, are ended with the Belly-band, which is ſtrong, very broad, and long, and beginning at the lower Belly, ſo perfectly rolls over the Body, that no Part of it is left uncovered.

The Body thus enamell'd, we lay it on a Cere-cloth, in which we wholly encloſe it, cutting it cloſe ſo as to come cloſe over all the Parts without folding it; and with a Cord, which is to be ten or twelve Ells long, we begin to ſtraiten it about the Neck, to form the Figure of the Head, that it may be accommodated to that of the Coffin. We run it ſeveral Times around the Body, each Circumvolution at the Diſtance of half a Foot from the other, and draw it as tight as we would a Pack to be ſent by the Carrier. The Body is then put into a Linen Shroud, which with a String we tie at each of its two Extremities, leaving about a Handful beyond each of the Ligatures. We then call for the Coffin, ordering it to be brought near to the Table where the Body is; and if 'tis a Princeſs of the Royal Family, the Lady of Honour is to take hold of the Handful of the Shroud which is left at the Head, and the Lady of the Wardrobe of that at the Feet, and they lay the Corps into the Coffin, which laſt Service they claim as their Right.

If the Surgeon has any balſamick Powder left, he ſtrows it in the Coffin, and fills the vacant Spaces with Bundles of aromatical Herbs, which he is to have ready provided for that Purpoſe; which done, the Plummer fixes on the Lid of the Coffin, which he ſolders on as expeditiouſly and neatly as he can. Whilſt he is ſoldering the Coffin, the Surgeon embalms the Heart; he takes it out of the China Veſſel in which he put it, waſhes it ſeveral Times in Spirit of Wine, and fills its Ventricles with the fineſt balſamick Powder, reſerv'd expreſly for that End; then encloſes it in a Bit of Cerecloth, wholly ſprinkled with the ſame Powder; he binds and faſtens it with the ſame Cord, ſhaping this ſmall Bundle in the Figure of a Heart, and ſo putting it in the Box. The Coffin being ſoldered, we lay it on two Feet in the Middle of the Room, and cover it with a Pall, and lay on the Coffin the Box which contains the Heart, which we cover with Crape, and leave both of them to be carried to their deſtin'd Sepulchre.

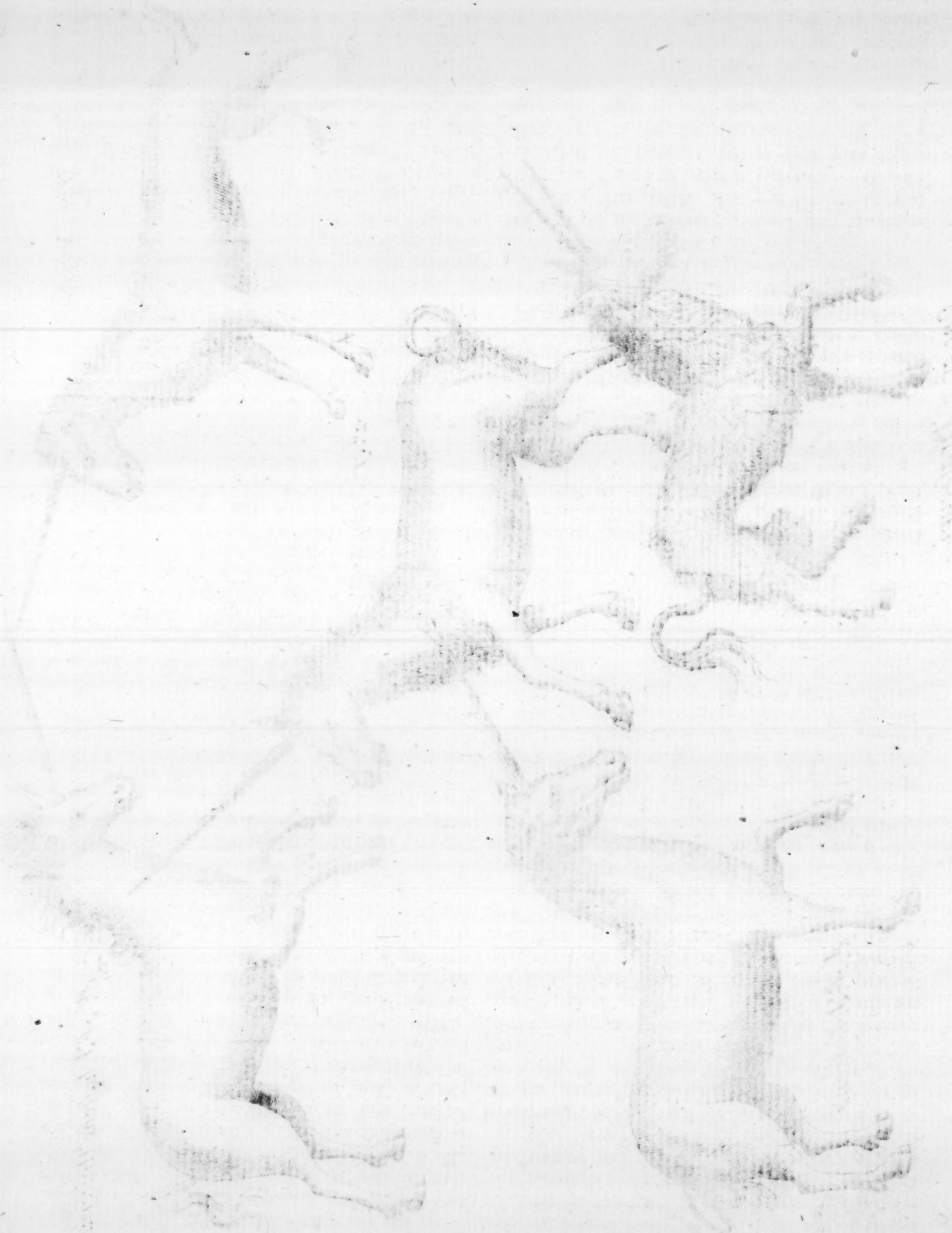
Some of the Antients pretended to have invented a Way preferable to all others, which was to take out generally all the Fleſh, and leaving only the Skin and Bones, to ſubſtitute in their Place aromatick Drugs and Powders; tho' this is not to preſerve the Body, but only the Skin and Skeleton from Putrefaction. Some Moderns propoſe to us eaſier Ways, of which there are ſeveral Sorts, with which Mr. *Penicher* has fill'd his Book; wherefore I ſhall forbear the Recital of them here, and content myſelf in acquainting you, that the Hiſtory of Embalming, which I have juſt laid before you, is that which I have performed on the Dauphineſs, and ſeveral Perſons of the firſt Quality, being that which I take to be the beſt of them all. I have heard of antient Sepulchres of Plaiſter, in the Middle of which the Body was placed, and alſo cover'd with Plaiſter; that in theſe ſort of Graves, the Bodies kept for a long Time, without emitting any ill Scent, becauſe the Salt Petre which is in the Plaiſter reſiſts Putrefaction; and the Plaiſter imbibing the ſtinking Seroſities which iſſue from the Body, ſtops the offenſive Exhalations. This Fact may put ſome upon reducing it to Practice; which in my Opinion ſhould be done the following Way: The Perſon reſolv'd to try this Experiment, is to order the making either of a leaden or wooden Coffin, proportioned to the Bulk of the Body, which is to be laid into it ſtark naked; when having ready three or four Hods of Plaiſter ſtrain'd thro' a Sack, ſo that it may reach to the Edges, the Corps muſt be wholly buried in Plaiſter. By this Method we may keep a Body ſeveral Days in the Houſe, and then lay it in a Vault deſign'd for the Dead, without the Danger of any ill Scent; and 'tis impoſſible to embalm a Body with more Eaſe, and leſs Expence.

[The true *Ægyptian Mummies* are very ſeldom found in the Shops, but are what ought to be us'd in Medicine; the Gums and Spices they abound with, making them very different from the Counterfeits. The next in Goodneſs to theſe, is what is called the *Arabian Mummy*, which is a thick Liquor, of a dark Colour and aromatick Smell, flowing out of the Bodies, embalm'd with Myrrh, Aloes, *&c.*

We alſo ſometimes ſee the Liquor of *Ægyptian Mummies*, which have been preſerv'd with the *Bitumen Judaicum*, with the Mixture of other Ingredients, which is not much inferior to the former; but the Thing commonly ſold under the Name of this, is the *Piſſaſphaltum factitium*, which is a Mixture of common Pitch, and *Bitumen Judaicum*.

The white *Mummies* are not the Bodies of ſuch as have been drown'd, but human Carcaſſes bury'd and dried in the Deſerts of *Africa*, as thoſe of *Zara* and *Libya*; where the Winds ſometimes bury whole Caravans at once in the Sands, where the Bodies dry and become light, and of the Conſiſtence of Horn. Theſe are never us'd in Phyſick, nor any of the others often now: and whatever Virtues they have been ſuppos'd to be poſſeſs'd of, may rationally be judged to be more

owing



The Camphur.

1st. of Johnston's Unicorns.

2

2d. of Johnston's

3d. of Johnston's

One of ye Piraſcupi.

owing to the Ingredients of the Compoſition they were preſerved with, than to the Fleſh of the Carcaſe, and therefore may be had from thoſe Ingredients, in a more decent Manner, than by ſwallowing the Fleſh of our Fellow Creatures.

The other Parts of the human Body, mentioned in the Catalogues of officinal Subſtances, are the Skull, the Skin, the Fat, the Bones, the Marrow, and the Heart. Virtues have alſo been attributed to the Hair, Nails, Saliva, Ear-Wax, Sweat, Milk, menſtrual Diſcharges, Secundines, Urine, Dung, Semen, Blood, Stone of the Bladder, and the Membrane encloſing the Head of the *Fœtus*, by ſeveral Authors; but few of them are uſed now. *Sal Armoniac* indeed is a Preparation of Urine and other Ingredients; and the Skull is an Ingredient in the *Pulvis ad Guttetam*; but little other Uſe is now made of any thing belonging to the human Body.

As to the ſtrange Hiſtory here given of the Beetle, it may be proper to obſerve here, that that Animal is produced by the Eggs of a female Parent, which hatch into ſix-footed pale-coloured Worms, which afterwards change into Beetles, as the Caterpillar does into a Butterfly.]

2. *Of the* Unicorn.

Pomet. THE *Unicorn* is an Animal which Naturaliſts deſcribe under the Figure of a Horſe, having in the Middle of his Head a ſpiral Horn, of two or three Feet long; but as we know not the real Truth of this Matter to this Day, I ſhall only ſay, that what we ſell under the Name of the *Unicorn's* Horn, is the Horn of a certain Fiſh, by the Iſlanders called *Narvual*, or the *Sea-Unicorn*, as you will find when we come to treat of Fiſh. This Horn was formerly in great Eſteem, becauſe of the mighty Virtues attributed to it by the Antients, eſpecially againſt Poiſons, which is the Reaſon that many great Perſonages have been very fond of it; ſo that it has been valued at its Weight in Gold. And there are yet ſome People, who eſteem it as highly.

Ambroſe Paræus, in a little Treatiſe which he wrote of the *Unicorn*, ſays, That in the Deſarts of *Arabia* are wild Aſſes, which they call *Camphurs*, carrying a Horn in their Front, with which they uſed to fight againſt the Bulls, and which the *Indians* made uſe of to cure ſeveral Diſeaſes, eſpecially ſuch as came by Poiſon; and that the *Arabs* near the *Red Sea* had another Animal among them, which thoſe People called *Piraſſoupi*, that has two Horns, long, ſtraight, and ſpiral, which the *Arabs* make uſe of when they are wounded, or bit by any venomous Creature. They let this infuſe ſix or eight Hours in Water, which they drink to cure them. He ſays, that this Animal is of the Size of a Mule, which alſo it reſembles in its Head; and that the Body is hairy like a Bear, a little inclining to a fallow Colour, and the Hoof divided or cleft like the Deer's. *Johnſton* ſays, in his Treatiſe of Animals, that there are other *Unicorns*; to whom the Reader may have recourſe.

However, that the *Unicorn* is a Beaſt having but one Horn, all agree; but becauſe there are five ſeveral Kinds of Beaſts which have alſo but one ſingle Horn, it is ſome Queſtion which of them be the true. They are, *Firſt*, The *Orix*, or one-horn'd wild Goat. *Secondly*, The one horn'd Ox. *Thirdly*, The Hart with one Horn. *Fourthly*, The one-horn'd Hog. And, *Fifthly*, the one-horn'd Aſs The firſt is certainly but a kind of one-horn'd wild Goat, the Deſcription of it differing not much from a Goat. It reſembles a Roe, having a Beard under its Chin, of a paliſh white Colour, and is cloven hoofed, with one Horn growing out of the Middle of its Head. Theſe are bred in *Ægypt*, *Æthiopia*, and many other Parts of the World: ſome of them are as large as Oxen. Their Horns are not only ſtrong and ſharp, like the Horns of a *Rhinoceros*, but alſo ſolid, and not hollow or porous, like the Horns of Harts. This Creature is ſaid not to value the Barking of the Dog, the Foaming of the Bear, the Bellowing of the Bull, the Cry of the Panther, or the Roaring of the Lion.

The one-horn'd Ox, Bull, or Cow, is bred in *Aonia*, of various Colours, intermix'd one with another, having a whole round Hoof, like a Horſe, and but one Horn growing out of the Middle of the Forehead: It is alſo bred in *India*, where the whole Species eat Fleſh, and are whole-hoof'd, and have only a ſingle Horn, which grows out of the Middle of their Foreheads. Some of them are ſaid to be as high as Camels, and their Horn four Feet long. There are alſo in *Æthiopia*, a kind, of a purple Colour, which have but one Horn growing out of their Heads, which turns up towards their Backs.

The *Unicorn Hart* is a Beaſt bred alſo in *India*, whoſe Feet reſemble an Elephant's; the Body, a young Horſe, and its Head, a Hart's; out of the Middle of which grows a Horn about three Feet long. It has a roaring Voice almoſt like a Bull, but much ſhriller.

The *Unicorn Hog* is ſo called from his Head, being like a Boar's or Hog's Head, found, as ſome Authors ſay, in the Dominions of the *Great Cham* of *Tartary*. This Species of *Unicorn* is ſomewhat leſs than the Elephant; they have Hair like Oxen,

Heads like Hogs, Feet like Elephants, a ſharp and thorny Tongue, and a Horn in the midſt of the Forehead, wherewith they deſtroy both Man and Beaſt. Had this Horn grown out of its Snout, it would have been a *Rhinoceros*; but as it does not, it muſt be taken for one of the Kinds of *Unicorns*.

The one-horn'd *Aſs* is the *Indian Aſs*, which equals in Bigneſs a Horſe; all white on the Body, but purple-headed and black-eyed, having one Horn in his Forehead, near three Feet long, whoſe upper Part is red or black, the Middle black, and the nether Part white. In theſe the great People of *India* drink, adorning them with all kind of precious things, believing that thoſe who drink in theſe Horns are freed from any ſort of deadly Poiſon or Infection. This *Aſs*, or *Unicorn*, exceeds all others of the Kind, both in Stature, Body, and Swiftneſs of Foot. They are ſo ſtrong that no Horſe can ſtand before them, and fight with their ſingle Horn like Bulls.

The true *Unicorn*, if you dare believe *Ludovicus Vertomanus*, who ſays he ſaw two of them at *Meccha* in *Arabia*, which were kept within the Verge of *Mahomet's* Sepulchre, is of a Weaſel Colour, with the Head like that of a Hart, the Neck not long, and the Mane growing all on one Side; the Legs ſlender and lean, like the Legs of a Hind; their Hoofs cloven like Goat's Feet, and the hinder Legs all hairy and ſhaggy on the Outſide. Of all the other five the wild *Indian* Aſs comes neareſt to this Deſcription; for the true Unicorn and he agree in theſe four things: *Firſt*, That both of them have one Horn in the Middle of the Forehead. *Secondly*, That both of them are bred in *India*. *Thirdly*, In that they are both about the Bigneſs of a Horſe. *Fourthly*, In their Celerity and ſolitary Life in the Mountains. But herein they differ; *Firſt*, In that the *one horned wild Indian Aſs* is whole-hoofed, and not cloven, as the *Unicorn* is. *Secondly*, That his Colour is white on the Body, and purple on the Head; whereas the *Unicorn* is of a Weaſel-like Colour. *Thirdly*, That his Horns are purple, black, and white; whereas the *Unicorn's* Horn is wreathed in Spires and of an Ivory Colour. In the Year 1553, a great *Unicorn's Horn* was brought to the King of *France*, valued at twenty thouſand Pounds *Sterling*. That which was preſented to King *Charles* the Firſt, of *England*, is ſuppos'd to be one of the greateſt that was ever ſeen in the World; it was ſeven Feet long, weighed thirteen Pounds, and was in the Shape of a Wax Candle, but wreathed within itſelf in Spires; hollow about a Foot from its Root, growing taper by little and little towards the Point; of a poliſhed Smoothneſs, and the Spires not deep, but like the Windings of Woodbine, and the Colour not perfectly white, but ſomewhat obſcure.

Some in *Poland* have been found five or ſix Feet long, being very ſharp and ſmooth: Others in the Rivers, but leſs pure, outwardly blackiſh, and inwardly of a pure white; a third and fourth Sort of a ſolid hard Subſtance, ſo that one would take them to be Stone; and many other Sorts have been found in that Country. But that theſe, or any of the others, were true *Unicorns* Horns, none of our Authors have yet made appear; and if all the Circumſtances be conſidered, it is much to be doubted whether any of them were the right or not; foraſmuch as the Druggiſts or Apothecaries were never known to have or ſell the true, that which is commonly ſold being from five to eight Foot in Length, and more, very ſharp-pointed, running taper all along, and twiſted or or wreathed, of the Colour of Ivory, but of a much finer Grain, and very white within. Yet this Horn is not produced by a four footed Beaſt, but comes from a Fiſh called the *Sea Unicorn*, and is brought from *Davis's* Streights near the *North Paſſage*.

Authors have aſcribed almoſt incredible Things to it, the chiefeſt of which are, to reſiſt all Manner of Poiſons, and to cure the Plague, with all Sorts of malignant Fevers, the Biting of Serpents, mad Dogs, *&c.* It is chiefly uſed as a Cordial, for which Purpoſe a Jelly is made of it, together with a little Cochineal and Saffron; and the Shavings are boil'd in Broth, *&c.* after the Manner of Shavings of Hart's Horn.

[The only one-horn'd Land Animal in the World is the *Rhinoceros*, which therefore is the true *Unicorn*, however variouſly deſcrib'd by People who either knew nothing of it but by Hearſay; or had a Mind to tell ſtrange Stories, rather than Truth. The Horn of this Animal is what the *Indians* uſe, and have ſo much in Eſteem, taking it inwardly in almoſt all Diſeaſes, and making Cups of it for their Kings to drink out of, imagining that nothing drank out of them can be poiſonous. It is certainly a Sudorifick, probably from the Quantity of volatile Salt it contains, and is commended in Epilepſies, *&c.* The *Rhinoceros* is found in *Africa*, and in the Iſle of *Java*, and is deſcrib'd by *Bontius*, under the Name of *Abada ſive Rhinoceros*: The Horn is black and ſolid, and when full grown is about twenty Inches long, and ſomething of the Figure of a Bull's Horn.

The thing called *Unicorn's Horn* in the Shops, is the Tooth of the *Cetus marinus*, *Narwal dictus*. *Mont. Ex.* 6. *Balæna decimum ſextum genus dicta Narwal Schones. Jet.* 28. It has long been known to belong to this Fiſh, and has been erroneouſly

thought



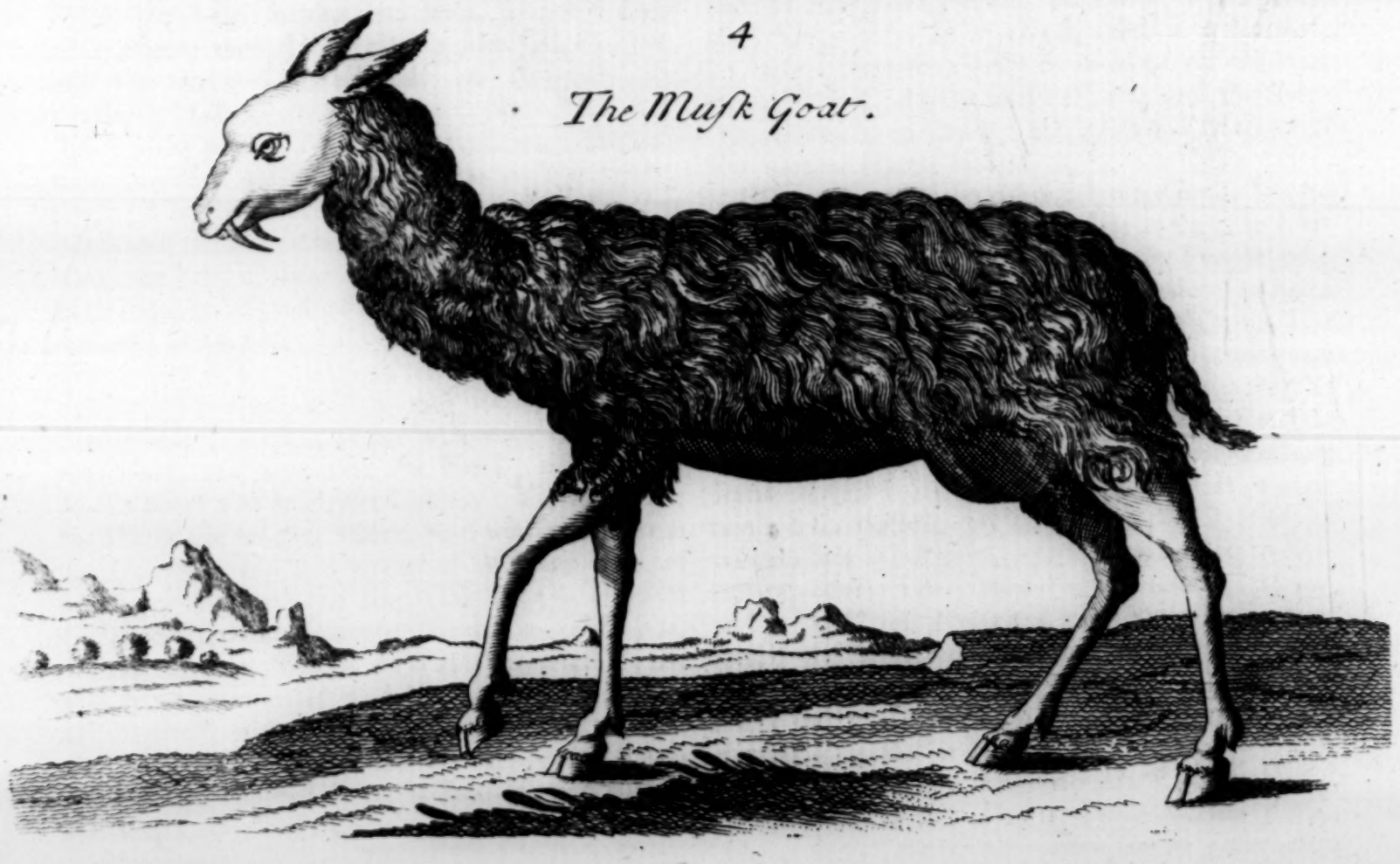
3

The Animal of bears of Bezoar or of Bezoar Goat.



4

The Musk Goat.



thought to be a Horn growing out of its Noſe, but is in Reality a Tooth of prodigious Length, growing out of his left upper Jaw: It is like Ivory but more ſolid and heavy, and its Fibres are ſmaller. Its Virtues are the ſame with thoſe of Ivory, Harts-horn Shavings, *&c.*

The Pieces of this ſold in the Shops, are often fictitious, being Pieces of the Bones of the Sea-Horſe and other Animals, turned into the Shape of this. The foſſile *Unicorn's* Stone is the *Cornu foſſile. Worm.* 54. *Charlt.* 23 *Cornu foſſile vulgo Monoceratos cornu Boet.* 425. *Ebur foſſile. Cluſ. Exot.* 168. It is a ſtony or earthy Subſtance ſomething reſembling Bones, hard on the Outſide, ſofter within, and ſticking to the Tongue. It is dug out of the Earth, and has the ſame Virtues with the *Terra Lemnia*, and other ſuch Earths.]

3. *Of the* Bezoar.

Pomet. THE *Bezoar*, which the *Indians* calls *Pozan*, is an Animal that produces in its Stomach, a Stone that is called by that Name, to which great Virtues are attributed, which made it heretofore highly valued, and ſold at a great Rate, as the right and oriental *Bezoar* is at this Day. There is a great deal of Trouble in meeting with the natural Stone, as certain Perſons have found out the Secret of counterfeiting it; beſide that theſe Animals do not produce any conſiderable Quantities; and ſeveral of them none at all. Mr. *Tavernier* ſays concerning *Bezoar*, as follows:

" *Bezoar* comes from a Province of the King-
" dom of *Golconda* lying on the North Eaſt. It
" is found in the Matter that is in the Maw of
" the Goats that browſe on a Shrub, the Name
" of which I have forgot. This Plant bears little
" Buds, about which, and the Ends of the Branches
" which the Goats eat, the *Bezoar* forms itſelf in
" the Stomach of theſe Animals. It takes its Shape
" from that of the Buds and the Ends of the
" Branches; which is the Reaſon we ſee it of ſo
" many different Figures. The Peaſants, by feel-
" ing of the Belly of the Goat, know whether
" there is any *Bezoar* there, and ſo ſell it accord-
" ing to the Quantity that is therein. They rub
" their two Hands under the Belly, and preſs the
" Maw or Stomach along on both Sides, ſo that
" what is therein muſt fall into the Middle, and
" they can then perceive exactly by feeling, how
" much *Bezoar* there is.

" The Rarity of *Bezoar* is in the Size; for the
" ſmall Pieces have not ſo much Virtue in them
" as the large; but in this there is oftentimes a
" Cheat, becauſe there are People who powder and
" mix the ſmall Pieces of *Bezoar* with a certain
" Paſte compos'd of a Gum, and ſomething elſe
" of the Colour of *Bezoar*, and form it up with
" its ſeveral Coats in the ſame Manner as we ſee
" the natural *Bezoar*; but we may diſcover this
" Fraud chiefly theſe two Ways: The firſt is, to
" weigh the *Bezoar*, and ſteep it ſome Time in
" warm Water; and if the Water does not change
" it's Colour, or the *Bezoar* loſe its Weight, it is
" true and natural. The other Way is to run a
" ſharp Piece of red hot Iron againſt the *Bezoar*;
" if the Iron enter, and it fry, it is a Sign of its
" Mixture, and that it is not natural. The larger
" the *Bezoar* is, the dearer it is, and it riſes in
" proportion as a Diamond: For if five or ſix
" *Bezoar* Stones weigh one Ounce, that Ounce
" will be worth from fifteen to eighteen or twenty
" Livres; but if it be one Stone of an Ounce
" weight, it will ſell for a hundred Livres. I have
" ſold one of four Ounces and a Quarter for two
" thouſand Livres.

" There are alſo a great many *Bezoar* Stones
" taken from Cows, both in the Eaſt and Weſtern
" Countries, and they are ſo large as to weigh ſe-
" venteen or eighteen Ounces; of which Sort I
" have ſeen one that was preſented to the Great
" Duke of *Tuſcany*; but they have nothing near
" the good Qualities of the true *Bezoar*; ſix Grains
" of which will do more than thirty of this. As
" to the *Bezoar* that is found in Apes, it is ſo
" ſtrong, that two Grains will perform more than
" ſix of that of the Goat; but it is very ſcarce:
" it is found particularly in the Apes to be met
" with in the Iſle of *Madagaſcar*. This Sort of
" *Bezoar* is round, whereas the other is of various
" Forms, according as it is ſhaped from the Buds
" and Ends of the Branches which the Goats eat.
" As theſe Stones which are had from the Ape
" are a great deal ſcarcer than the other, ſo are they
" abundantly dearer, and more ſought after; and
" when one is found of the Size of a Nut, it is
" ſold ſometimes for an Hundred Crowns. The
" *Portugueſe*, above all other Nations, make great
" uſe of *Bezoar*, becauſe they are always upon
" their Guard, or watching one another for fear
" of Poiſon."

To this I ſhall add what Mr. *Du Renou* has obſerved of the *Bezoar*; who ſays, pag. 451. " It
" is a very active Animal, that ſkips from Rock
" to Rock, at his Eaſe, and is very fierce; ſo
" that when he is cloſely purſued, he ſometimes
" kills the *Indian* Hunters. The Hoof or Claws
" of his Feet are divided neither more nor leſs
" than the Goats; the Legs are pretty thick; the
" Tail ſhort, and turn'd up; the Body hairy as
" that of the He-Goat, but ſhorter, and of an
" aſh Colour, inclining to red, or rather of the

" Colour of a Hind's Belly; the Head is ſhaped " like the Goat, and armed with two black Horns " hollow in the lower Part, and turn'd back- " wards, and as it were lying down upon the " Back, with which they make an obtuſe Angle " in joining." And this Account I can affirm to be Truth, having ſeen two at the Marſhal *Vitry*'s Caſtle. Beſides what yet further confirms what the Sieur *Renou* has ſaid of it is, that I have by me the four Feet, a Horn, and the Coat of the Stone of this Animal, which agree exactly with the Relation made by the Sieur *Du Renou*. As to the Coat of the Stone it is one of the greateſt Curioſities that has been ſeen a long Time in *France*, by the Account of the moſt intelligent People.

It is marked in the Plate A: it is of the Size of a Gooſe Egg, ſupplied on the Outſide with a rough ſhort Hair, of a dun Colour, and being cut aſunder appears to encloſe a Shell, mark'd in B, that is thin and brown, which makes a Covering for another Shell, that is white, and is marked C, where this Stone is contained, to which they give the Name of *Bezoar*. This is contrary to what all Authors have wrote of it; and I ſhould not have had the Confidence to have advanced it, if I had not had the Original in my Hands; which makes it plain, that there can never be more than one *Bezoar* Stone at a time in the Belly of this Animal, becauſe of the Bigneſs. And it is likely the great Number of theſe Animals that have no *Bezoar* at all in them, occaſions their Scarcity and Dearneſs.

If you would have the fineſt and beſt Oriental *Bezoar*, you muſt chuſe that which is ſhining, of a pleaſant Scent, tending to that of *Ambergreaſe*, ſmooth to Touch, and which rubb'd on Paper done with Ceruſſe, makes it become yellow. The leſs it is broken to Pieces, and full of Bits irregularly ſhap'd, the better; and take care that the falſe be not mix'd with the true, eſpecially when 'tis bought in large Quantities; the more ſhining, large, intire, and round it be, the more it is valued. But as to the particular Figure or Colour, they are of no Conſequence for its phyſical Uſe; it is all one whether it be long, round, crooked, or twiſted, ſmooth, rough, white, yellow, or grey; but the Colour that is uſually to be met with, is the Olive Colour.

Bezoar is a Preſervative from peſtilential Air, and a Remedy for the Small-Pox, Meaſles, or other contagious Diſeaſes. It is reckoned alſo proper againſt Vertigo's, Epilepſies, Palpitation of the Heart, Jaundice, Cholick, Dyſentery, Gravel, to procure Labour-Pains, and againſt Poiſons. Doſe from four Grains to twelve. The *Jews* call this Stone *Bell-Zaard*, which ſignifies the Maſter, or Overcomer of Poiſon.

Of Occidental Bezoar.

The occidental *Bezoar* differs from the oriental, in that it is uſually much larger, being found ſometimes of the Size of a ſmall Hen's Egg. It is likewiſe of diverſe Colours, but moſt commonly of a light Grey. It is made up of ſeveral *Laminæ*, or Cruſts, laid one over another like the former, but much thicker, and being broke, appears as if it had been ſublimed, in that one ſees in it a great many little Needles ſhooting like thoſe in Salt of Lead: the Outſide is ſoft, and very ſmooth, of a reddiſh grey Colour.

Theſe *Bezoars* are brought from *Peru*, where ſome of the *Bezoar* Animals are found. But as they are but rarely met with in the Belly of theſe Animals there, that makes it that very few are brought into *France*. It has alſo a very ſweet Smell, much ſtronger than the *Oriental Bezoar*. And becauſe this *Bezoar* is very ſcarce, the *Dutch* and other Nations counterfeit it with a grey Paſte, which they form into round Balls of what Size they pleaſe. And I have ſeen one of the Bigneſs of a Tennis-Ball, that was in the middle of a Cup, ſo fix'd that it could not be mov'd, to the end that it might be infus'd in the Liquor put in the Cup, in order to give a Flavour to it before they drank it.

There are alſo ſome others Things in the Shops, called ſometimes *Bezoars*; as the Heart and Liver of the Viper, *&c.* are called *Bezoar Animal*. The Juniper-Berries, *Bezoar Vegetable*, and the Venice Treacle, Mithridates, *&c. Bezoar Compound:* The ſeveral Stones alſo found in the Stomachs of Hogs, Oxen, *&c.* are called by ſome *Bezoar*, but it would be better to confine the Word to the Oriental and Occidental Stones here deſcribed, and to call the others by the Names that more properly belong to them.

Bezoar is a Stone taken out of the Belly of certain Animals in the *Eaſt-Indies*, of which there are ſeveral Sorts. I ſhall here mention four that are of Uſe in Phyſick. The firſt Kind, or that moſt commonly us'd, is called, *Lapis Bezoar Orientalis*, or the *Oriental Bezoar*. It is found in Balls of different Sizes and Shapes; for ſome are as big as a Wallnut, others as a Nutmeg, other as a Hazel-Nut, and ſome as a large Pea: Some are round, others oval, flat, or bunch'd. The Superficies of all of them are ſmooth, poliſh'd, ſhining, of an olive or grey Colour. Their Subſtance, when broke, divides like *Laminæ*, or Scales, that are form'd ſucceſſively by different Acceſſions

Lemery.

ceſſions of ſaline Humours, which petrify in the Belly of the Animals, after the ſame manner as Stones are form'd in the Channels of a Current of the Waters, which continually leave behind them certain Salts, which coagulate and form themſelves into a hard Cruſt or Stone. This *Bezoar* is produc'd in the Belly of a wild Goat in the *Eaſt-Indies*, which they call in *Latin Capricerva*, becauſe they partake of the Deer and the Goat. The Inhabitants otherwiſe call them *Bezoar*, from whence the Name of *Bezoar* ariſes.

This Animal is very nimble, ſo that he will ſkip from Rock to Rock; and is dangerous to the Hunter; for he will defend himſelf, and ſometimes kills the *Indians* that purſue him. The Head reſembles that of the He-goat. The Horns are very black, and are bending almoſt to his Back. The Body is cover'd with an Aſh-colour'd Hair, inclining to red, much ſhorter than that of the Goat, and neareſt to the Deer's. The Tail is ſhort, and turns up again. The Legs are pretty thick, and the Feet are cleft like thoſe of the Goat. Chuſe your *Oriental Bezoar* in one whole Stone, that is ſmooth, ſhining, and of a pleaſant Smell, inclining to *Ambergreaſe*. They divide into *Laminæ*, or Flakes, when broken; of a grey or olive Colour. The largeſt are the moſt valued by the Curious, but it is of little Moment in Phyſick of what Size they are. It contains in it ſome ſmall Matter of volatile Salt, that is ſulphurous and oily. It is eſteem'd as a great Cordial, proper to promote Sweat, and drive away malignant Humours. The Doſe is from four Grains to ten or a dozen in any Cordial, or other proper Liquor.

The ſecond *Bezoar* is call'd *Lapis Bezoar Occidentalis*, or *Occidental Bezoar*. It is a Stone uſually larger than the Oriental, but is not ſo ſmooth and ſhining, of an aſh or whitiſh Colour. They ſeparate likewiſe into *Laminæ*, but a great deal thicker than the Oriental *Bezoar*, interſperſed with a great many ſmall Points on the Inſide. This has the ſame Virtues with the other, but much weaker, being given to half a Dram.

The third Sort is call'd, *Bezoar Porci, ſive Lapis Porcinus*, or the *Hog Stone*. It is almoſt of the Bigneſs of a *Filbert*, differently ſhap'd, and uſually of a whitiſh Colour, inclining ſomething to a greeniſh, but now and then of other Colours. The Outſide is ſmooth. They find this Stone in the Gall of certain Swine in *India*, in the *Moluccо's*, and ſeveral other Parts. The *Indians* call them, in their Language, *Maſtica de ſolio*; the *Portugueſe*, *Pedro de Vaſſar*, or *Piedra de Puerco*; and the *Dutch*, *Pedro de Porco*. It is very ſcarce, and much valued, ſo that they ſell it in *Holland* for four hundred Livres, and more. This Stone is ſought after by the *Indians* with a great deal of Induſtry.

They uſe it as a great Preſervative againſt Poiſon, and reckon it very proper to cure a Malady they call *Mordoxi*, which comes from an irritated Bile, which cauſes thoſe that are ſeiz'd with it to be worſe than them that have the Plague. It is likewiſe us'd for the Small-pox, epidemical Fevers, in hyſterical Caſes, and for the Stoppage of the Courſes. It is pretended to excel *Oriental Bezoar*. When they uſe it, they let it ſtand infuſing ſome Time in Wine and Water, that it may impart its Virtue; then they drink the Infuſion before Meals: It has a little Bitterneſs, which is not unpleaſant. There are thoſe who have theſe Stones hung in little gilt Chains, to put into any Liquor for the Infuſion. They keep them in little golden Boxes.

The fourth Sort of *Bezoar* is call'd *Bezoar Simiæ*, or the *Bezoar from the Ape*. It is a Stone as big as a Hazel-Nut, round or oval, and blackiſh. They ſay it is taken from a kind of Ape that is found particularly in a certain Iſland of *America*. This Stone is very ſcarce and dear. It is eſteem'd more ſudorifick and proper in malignant and peſtilential Caſes, than all the other *Bezoars*. The Doſe is from two Grains to ſix. The Signification of the Word *Bezoar*, according to ſome, is a *Counter Poiſon*: According to others, the Overcomer, or Maſter of Poiſons.

[The Creature which affords us the true *Oriental Bezoar* is the *Gazella Indica, cornibus rectis, longiſſimis, nigris, prope caput tantum annulatis. Raii Synopſ. Animal.* 79. *Caper ſive Hircus Bezoarticus. Aldr. de Quad. biſul.* 755. *Capra ſive Hircus Bezoarticus, vel potius Pazaharticus. Jonſ. de Quad.* 56. It is an Animal of *Perſia* and the *Eaſt Indies*, and is call'd by the *Perſians*, *Paſer*. The *Bezoar* Stone is found in its Stomach. The true *Oriental Bezoar* is of different Colours, but commonly of a browniſh olive Colour. It has as a Nucleus always ſome heterogeneous Subſtance, round which it has gradually form'd itſelf in Strata, like the human Calculus. The Perfume of theſe Stones is adventitious, for they have naturally no Smell.

Many have judg'd the *Bezoar* we uſe generally fictitious; and doubtleſs the great Price has encouraged many to counterfeit it, and Counterfeits are often ſold inſtead of it; but the common Reaſon for judging it fictitious, which is, that but one Stone is produced by one Animal, and therefore we could not be furniſh'd with the Quantities we have, genuine, is a very weak one; for as there have been found by *Camillus*, in one emaciated Stag ſixty Stones, why ſhould we tye ourſelves to the belief that this Species of Animal, which is more ſubject to breed them than any other in the World, ſhould produce but one in each Individual? Our

Author

Author's Account of his particular Stone is not at all to be regarded, for the very Stone he deſcribes here, has been ſince examined by Men of greater Penetration, and found to be no other than a Fruit of the *Palma Cuciofera I. B. Nux Indica minor Cordi*, in which eitherour Author, or ſome Body he had ſuffered to impoſeon him, had very artfullyincloſed a *Bezoar* Stone.

The Occidental *Bezoar*, is produced by the *Mazama ſeu Cervus. Hern.* 324. *Caguacu-Ete Mare.* 235. *Caguacu-apara ejuſdem, ſive mas et fœmina. Raii Syn. An.* 90. The Creature is found in *Mexico* and *Peru*, the Stone is of a looſer Texture, and more brittle than the Oriental *Bezoar*, and not ſo ſmooth on the Outſide, containing like it a heterogeneous *Nucleus* within. It has the Virtues of the other, but in a ſmaller Degree.

The *German Bezoar*, or *Ægragopilas*, *Mont. Ex.* 5. is found in the Stomach of the *Dorcas ſive Rupicapra. Ald.* 725. *Rupicapra, Raii Syn. Animal.* 78. This Stone is lighter than the others, and has for its *Nucleus* the Fibres, *&c.* of Herbs undigeſted by the Stomach of the Animal, on which are uſually two *Strata* of a coriaceous Subſtance.

The *Pedro de Porco* is found in the Gall Bladder of the Porcupine. *Hyſtrix. R. S. An.* 206. *Jonſ. Quad.* 111. It is light and rough. The *Bezoar* Mineral is the *Terra Sicula Bezoardicum Minerale. Mont Exot.* 14. *Lapis Bezoar foſſilis. De Laet.* 114. It is found in *Sicily* and other Places. There is alſo a chymical Preparation of Antimony of this Name. And it may be added to theſe different *Bezoars*, that the Stone of the human Bladder is called by ſome, *Bezoar Microcoſmi.*]

4. *Of the* Muſk Animal.

Pomet. THE *Muſk* Animal comes very near to the Figure and Colour of a Hind, only it has a longer Body, according to the Skin which I have ſeen in the Poſſeſſion of the Sieur *Nicholas Rondeau* at *Roan*. There are a great many of theſe Animals in the Kingdoms of *Tonquin* and *Boutan*, and in divers Parts of *Aſia*.

That which we call Muſk is a corrupted Blood, which is collected under the Belly of this Animal, after the Manner of an Impoſthume; when it is ripe, the Beaſt, by Inſtinct, goes to rub himſelf againſt a Tree to break it. And this corrupted Blood, being dried in the Sun, acquires a ſtrong Smell that is very diſagreeable; which it ought to retain when it is pure, and has not come thro' the Hands of the *Jews* in *Holland* and other Places, or of other Perſons, who ſophiſticate it with Earth, dried Blood, and other Contrivances.

They are much abuſed who are made to believe that the Muſk is the Teſticles of the Animal; and that he gelds himſelf when he is purſued, as knowing that he is to be taken for his Teſticles. This has been imagined, only becauſe the People who put it into Bladders, cut them out in that Shape. Others would have it that the Muſk is bruiſed Blood, which is produced over all the Body of this Animal, by beating it with Clubs; and that they afterwards wrap it up in Pieces of the Skin, which they cut and ſew into the Faſhion of Teſticles. But ſince both theſe Originals of Muſk ſeem very odd, I think it beſt to relate what Mr. *Tavernier* has written in his ſecond Volume, *Page* 316. that the Reader may incline to which Opinion he likes beſt.

" The beſt Sort and greateſt Quantity of Muſk " comes from the Kingdom of *Boutan*, from whence " they carry it to *Patna*, a principal City of *Ben-* " *gal*, to traffick with the People of that Country. " All the Muſk that is ſold in *Perſia* comes from " thence; and the Merchants who trade in Muſk, " had rather that you ſhould give them yellow " Amber or Coral for it, than Gold or Silver, be- " cauſe thoſe are the two Things of greateſt Eſteem " amongſt them.

" After they have ſlain this Creature, they cut " the Bag which is under the Belly, about the Big- " neſs of an Egg, and lies nearer to the genital " Parts than the Navel; then they take the Muſk " out of the Bladder, which at that Time is like " clotted Blood. When the Country People would " adulterate it, they put the Liver and Blood chopped " together inſtead of ſome of the Muſk they take " out. This Mixture produces in the Bladders, in " two or three Years Time, certain little Animals " which eat up the good Muſk; ſo that you ſhall " find a great deal of Damage when you come to " open them. Others, when they have opened " the Bladder, and taken out as much Muſk as they " can, ſo as not to be perceived, put in ſmall Bits " of Lead to render it more weighty. Mer- " chants who buy and tranſport it into other Coun- " tries are more eaſy under this Deceit than the " other, becauſe thoſe little Animals do not en- " gender in it; but their Deceit is ſtill more dif- " ficult to be diſcovered when they make little Pur- " ſes of the Skin of the Belly of the Animal, and " ſew them up ſo neatly with Threads of the ſame " Skin, that they may ſeem to be the real Bladders, " and fill theſe Purſes with that which they have " taken out of the real Bladders, together with " the fraudulent Mixture they add to it, which " is a Deceit the Merchants can have no Know- " ledge of. If they tie up the Bladder as ſoon as " they have cut it off, without giving Air and " Time for the Perfume to loſe a little of its Force " by Evaporation, which it generally does whilſt " they draw out that which they take from it;

" when

" when any one puts the Bladder to his Noſe, " Blood will burſt forth immediately by the Force " of the Perfume, which ought of Neceſſity to be " tempered, to render it agreeable, without hurt- " ing the Brain. The Perfume of this Animal, " which I brought to *Paris*, was ſo ſtrong, that it " was impoſſible to endure it in the Lodging; it " gave all the People the Head-ach, ſo that it was " removed into the Out-Houſe, where ſome of " my Servants cut the Bladder; which however " did not hinder the Skin from alw ys retaining " ſome of the Perfume. They do not begin to " find this Animal till about the 56th Degree; " but in the 60th there is great Number, the " Country being full of Foreſts. In the Months " of *February* and *March*, indeed, when theſe " Creatures have endured much Hunger in the " Climate where they are, by reaſon of the Snows " that fall in great Quantities, ſo as to be ten or " twelve Feet deep, they come from the North, " Southward to the 44th or 45th Degree, to eat " the Blades of the green Rice; and it is at that " Time the Country People lay Nets for them " in their Paſſage, and kill them with their Staves " and Arrows. Some People have affirmed to " me that they are ſo lean and feeble, thro' Hun- " ger, at that Time, that they ſuffer themſelves to " be run down. There muſt be a prodigious " Quantity of theſe Creatures, ſince each has but " one Bladder; and the largeſt commonly being no " bigger than a Hen's Egg, which cannot furniſh " above half an Ounce of Muſk; and ſometimes " there muſt be three or four Bladders to make " one Ounce.

" The King of *Boutan*, fearing leſt the Tricks " which are played with the Muſk ſhould ſpoil " the Trade for it (ſince it can be had from " *Tunquin* and *Cochin China*, tho' it is dearer there " becauſe it is not taken in ſuch large Quantities) " has ſome time ſince commanded that none of the " Bladders ſhould be ſewed, but all brought open " to *Boutan*, which is the Place of his Reſidence, " there to be inſpected, and ſealed with his Seal. " All thoſe which I bought were of this Kind. " But notwithſtanding all the King's Precautions, " the People have a cunning way to open them, " and put in their ſmall Bits of Lead (as I have " ſaid) which the Merchants endure the more " patiently, becauſe it does not ſpoil the Muſk, " but only deceives them in the Weight."

Muſk is to be choſen in very dry Bladders, the Skin that covers it very thin, and with but little Hair upon it, becauſe there are ſome Bladders where there is more of the Skin and Hair than the real Commodity. Let it be of a brown Colour, which is the Mark of the right *Tunquin* Bladder, which is much more eſteemed, and better than that of *Bengal*, which is covered with Skins that have white Hair upon them. When the Muſk is ſeparated from its Cover, that ſhould be made Choice of, which is of a dark Colour; of a ſtrong and unſupportable Smell; of a bitter Taſte, and has as few hard and black Clots in it as is poſſible; and being put upon the Fire, will burn and be conſumed. Yet this laſt Mark is not of general Uſe, but ſerves only to diſcover that which is mixed with Earth; for the Fire will not manifeſt the Falſity of that which is counterfeited with Blood. Others will have it, that the right Muſk ought to have an Oilineſs when preſſed with the Fingers. But as this is a Commodity very difficult to be known, and the moſt cunning are often deceived in it, it has given Occaſion to many Perſons to mix it, and therefore one ought not to ſtrive for a good Pennyworth, but to buy it of honeſt Merchants, and reject all the Sorts of Muſk which Hawkers carry about to ſell, both in and out of the Bladders, it being nothing but Dirt a little ſcented; to cover their Roguery. They pretend to ſell it cheap, becauſe they brought it out of the Country themſelves, or that they have ſtole the Cuſtoms, which are indeed very high upon it; or that they are Mariners, and the Captain has given it to them for their Wages; and by that Means put off their falſe Drugs, ſelling more for twenty Pence than an honeſt Merchant can afford for twenty Livres, and getting enough by it at their cheap Price too. As for that which is mixed with Earth, it is eaſy to know it; becauſe if a little be put upon lighted Charcoal, if there is any Earth it will remain; but, on the contrary, if it be mixed with the Blood and Liver of the Beaſt, there will remain only a little whitiſh or grey Duſt; this however is to be rejected, as ought alſo that which is of a pleaſant Smell, becauſe it does nor get that agreeable Scent, but by the Addition of ſome Drugs that open the Parts of it.

The Uſe of Muſk is not very frequent in Phyſick, becauſe it is very improper for Women; but it is much uſed by the Perfumers; and if the Demand for it be not ſo great as formerly, it is becauſe Perfumes are not ſo much in Uſe as they have been heretofore.

Moſchus, or *Muſk*, is a Kind of bilious Blood, fermented, coagulated, and almoſt corrupted, which is taken from a thick Bladder, or Pouch, as big as a Hen's Egg, which is found under the Belly towards the genital Parts of a wild four-footed Animal, called *Moſchus*, *Moſchius*, *Dorcas Moſchi*, *Capriolus Moſchis*, and *Gazella Indica*. They ſay it is of the Shape and Colour of a Hind; is produced in the Kingdoms of *Boutan*, *Tunquin*, and ſeveral other Parts of *Aſia*. *Lemery.*

Aſia. It frequents the Woods and Foreſts where they hunt it; and when they have killed it, they cut out the Bladder, or Cod, which is under the Belly; then they ſeparate the coagalated Blood, which they dry in the Sun, and reduce to a Kind of light Subſtance, almoſt powder'd, of a dark reddiſh Colour. This acquires a ſtrong diſagreeable Smell. They then wrap it up in Bladders for Tranſportation. And this is the Muſk we uſe.

There are a prodigious Number of Animals that yield Muſk, chiefly in the Kingdom of *Boutan*. They catch them uſually at Spring-Time, or in the Beginning of Summer: For after they have been almoſt ſtarved, during the Winter, becauſe of the Snows that fall in thoſe Countries, ten or twelve Feet deep, they come to ſeek for Food; their Blood being then in a great Heat, and violent Fermentation. The Muſk they then get is likewiſe ſtrong and ſpirituous, which is the Reaſon they do not expoſe it for ſome Time to dry in the Air, leſt it ſhould quite deſtroy the Smell. They cannot take a great deal of Muſk from any one of theſe Animals, becauſe they have but one Cod a-piece, which does not yield above three Drachms of Muſk dried. Others ſay, that the Bag, during the Rutting of this Creature, has an Abſceſs formed in it; which when fully ripe makes the Beaſt itch and rub himſelf againſt Stones, Rocks, and Stumps of Trees, 'till he breaks it; and it is this Corruption that, when it is ſpilt and dried in the Sun, becomes Muſk.

There is no Impoſſibility in this Story; but yet it is not to be thought, as moſt of the Naturaliſts, both ancient and modern, have done, that all the Muſk we have is taken from theſe Abſceſſes. For is it likely that they can follow the Track of the wild Beaſts, through the Woods and Foreſts, to gather up this Matter which they have thrown ſometimes into Places inacceſſible, into Mire or Sands? If we had no other Muſk but that, it would be much ſcarcer and dearer than it is; beſides, a dried Abſceſs would be of another Colour than Muſk, for it would be of a light grey.

When you buy Muſk in the Bag, you ſhould chuſe that which is dry; let the Bag be thin, and little Hair upon it; for the more Hair and Skin there is, there will be the leſs of the Muſk. Let the Hair be of a brown Colour, for that is the Mark of *Tunquin* Muſk, which is moſt eſteemed. The Muſk of *Bengal* is wrapt up in Bags, with white Hair upon them.

When the Muſk is ſeparated from the Bag, it muſt be kept in a leaden Box, that the Coolneſs of the Metal may hinder it from growing too dry, and loſing its moſt volatile Parts. That Muſk is to be made choice of that is ſufficiently dry, of a reddiſh Colour, ſtrong Scent, and a bitter Taſte. It is almoſt all Sulphur, or Oil, and volatile Salt. It has very little Earth in it. The Scent is nauſeous and diſagreeable when you ſmell to a great deal of it at a Time, but ſweet and pleaſant when ſome few Grains are mixt with a Quantity of other Ingredients. The Reaſon of the Difference is this; when it is in a larger Quantity, the Parts evaporate ſo much, that they oppreſs and tire the olfactory Nerve; whereas, on the contrary, when there are but a few volatile Particles, they only affect it with an agreeable Titillation. Muſk has been uſed much more amongſt the Perfumers and Confectioners, than it is at preſent. People are afraid of it now, becauſe it raiſes the Vapours, eſpecially in Women.

It fortifies the Heart and Brain, refreſhes the decayed Spirits; it reſiſts Poiſon, diſcuſſes and rarifies groſs Humours, increaſes Seed, and expels Wind. The Doſe is from half a Grain to four Grains. It is good for Deafneſs, being put into the Ear, with a little Cotton. They apply it to the Womb, to allay the Vapours in hyſterical Fits, upon the riſing of the Womb, called the Mother.

[The Animal which produces the Muſk is the *Capra Moſel. aliis Cervus odoratus. Chart. Exer.* 10. *Capra Moſchus. Aldr.* 743. *Animal Moſchiferum Raii Synop. An.* 127. It is common in the Northern Part of the *Mogul's* Country, and is not properly either of the Goat or Stag kind, tho' ſomething like both.

The Muſk is an excrementitious Blood, which has undergone ſeveral Alterations in its Follicle, and is either taken out by Inciſion, or rubbed out by the Animal, or cut from its Body, with the Bag. The *Arabians* uſe it as a great Cordial, but it has been very little uſed with us, becauſe found hurtful to Perſons of both Sexes ſubject to the Vapours. Of late, however, great Cures have been performed by large Doſes of it; a Scruple at a Time, given in ſome ſpirituous Vehicle, as Arrack, or ſtrong Cinnamon Water.

Cotton impregnated with it, is found admirable in that Kind of Deafneſs, which is owing to a too great Thickneſs, and Viſcidity of the Fluids.]

Of the Civet-Cat.

THE *Civet* is a thick unctuous Liquor, found in a Pouch which is under the Tail, and near the *Anus* of a Beaſt like a *Spaniſh Cat*, but much more fierce, and very voracious. This Animal has from hence the Name of the *Civet-Cat*, and is very common in *China*, the *Eaſt* and *Weſt-Indies*, and likewiſe in *Holland*. *Pomet.*

Authors differ extremely concerning the Nature of this Animal, and that which we take from it. But as it is not my Purpoſe to repeat what they have written, I ſhall only relate what I myſelf have

of Animals

5

The Civet Cat.



6

The Beaver.



ye Testicles of ye Beaver.



have practiſed upon a *Civet-Cat* that I kept alive a Year together, whoſe Figure I have given you. It was brought from *China* by a Perſon in the Retinue of the Ambaſſador of *Siam*, who gave it to one of my Friends, who made a Preſent of it to me in the Year 1688. Having kept this Creature ſome Days, I perceived that the Wall and Bars that encloſed it were continually covered with an unctuous Moiſture, thick, and very brown, of a very ſtrong and diſagreeable Smell: Notwithſtanding that during all the Time I kept this Animal, I took Care to have the Civet gathered every other Day, not without ſome Trouble and Hazard, becauſe it put the Creature to ſome Pain or Apprehenſion of it; and having done ſo for ſome Months, I had about the Quantity of an Ounce and a half; but it is certain, that if the neceſſary Care had been taken, and the Beaſt could be hindered from rubbing itſelf, I might have got a great deal more; but I neglected it, becauſe the Colour of the Drug did not pleaſe thoſe I ſhewed it to, though it was well ſcented, and as good at leaſt as that which is brought from *Holland*.

There is no Reaſon, therefore, to think that the Civet is the Dung or Sweat of this Animal, as ſome have believed, who have alſo told us, that the Animal affords no Civet till it has been well beaten; and that the more it is enraged, the more Civet it lets down under its Belly, and between its Thighs; which is contrary to the Truth, as may be remarked from what I ſaid before. And as to the white Colour of that which comes from *Holland*, the Reaſon of it is, the *Dutch*, who make a great Trade of *Civet*, feed their *Cats* with Milk and Eggs.

Beſides the *Civet* from *Holland*, there comes ſome from *Brazil* which is brown, agreeable both in Smell and Colour to that I gathered from my Animal; they give this the Name of *Guinea* or *Brazil Civet*.

There is a third called *Occidental Civet*, of which, becauſe it is ſo common, and has no Relation to this Chapter, I ſhall ſay nothing; and therefore remit the Reader to the ſeveral Authors that have treated of it, it being no other than human Dung.

Civet is to be choſe new, and of a good Conſiſtence, that is, that it be neither too hard nor too ſoft, of a white Colour, of a ſtrong Smell, and very diſagreeable. This Commodity is as difficult to be known as Muſk. It is for this Reaſon the *Hollanders* put little printed Certificates upon their Pots of *Civet*, to give it the Credit of being pure and not falſified; and that it is ſuch as it came out of the Pouches of the *Civet-Cats*; but the beſt Way is to buy it of honeſt Merchants, without relying upon the printed Papers, or the Colour, ſince it may be of a golden Colour, and yet be good; for if it be kept a little Time, though the Pots be never opened, the Top, how white ſoever it were before, will become yellow, and of a gold Colour, and as it grows old will be ſtill the browner.

Many Perſons affirm, that if a Paper is rubbed with *Civet*, and one can write upon it, it is an infallible Mark that it is natural, which I found to be falſe, having tried it ſeveral times. But, beſides the Care that muſt be taken to have it from honeſt People, one muſt look whether in keeping it does not grow muſty and decayed; becauſe that which is mixed will grow mouldy, both at Top and Bottom, eſpecially where there is any vacant Space, and will have a rank Scent, and very diſagreeable. When this happens to People who have falſified it, and it becomes unfit for Sale, as well for its ill Colour as its Smell, which is different from the right *Civet*, they colour it with ſome Drugs, and ſo paſs it off under the Name of *Guinea Civet*, which will eaſily be found out by its reddiſh Colour, which they commonly give it. Never truſt therefore to the *Dutch* or *French* Prints they put upon it, which ſerve only to cover their Knavery, and to get twenty or two and twenty Livres an Ounce for that Commodity, which does not ſtand them in perhaps forty Pence.

Civet is of ſome Uſe in Phyſick, but is moſt in Requeſt with the Confectioners and Perfumers. It ſerves to perfume and give a Scent to other Ingredients. This Drug is to be uſed with a great deal of Diſcretion; for if one exceeds, though never ſo little, the juſt Quantity that ſhould be uſed, inſtead of a pleaſant Smell, it renders one that is very diſagreeable.

Zibethum, *Zibetha*, *Civeta*, *Zepetium*; in *Engliſh*, *Civet*, is a liquid Matter, or congealed Liquor, unctuous, of a Scent that is very ſtrong and unpleaſant. The Beaſt from whence it is taken is called in *Latin*, *Hyæna*, *Catus Zibethicus*, *Felis odoratus*, in *Engliſh* the *Civet-Cat*. It is a Creature much bigger than a Cat, and leſs than a Badger, having ſomething in it that reſembles a Fox; the Face is ſharp like a Martin, with a black Noſe; its Ears ſhort and round; its Eyes blue; the Leg and Foot black, more broad aad open than a Cat's, but the Claws not ſo crooked, nor hid in the Feet, but its Teeth are more terrible; it has Spots all over the Body; the Hair of the Legs and Feet is very fine and ſoft, but in other Parts harſh, and ſtanding upright. It is a neat and cleanly Beaſt, and therefore the Place it is kept in muſt be waſhed

every Day. Merchants buy the young ones, and breed them tame, feeding them with Bran, Rice-Milk, hard Eggs, Bread, Fleſh, *&c.* ſo that a Cat that is large and gentle, may come to be valued at between four and eight Pound Sterling.

The beſt *Civet* is ſaid to be made in *England*; but great Quantity is ſent from *Holland*, with printed Certificates into all Parts of *Europe*. The beſt is of a clear, fine, lively whitiſh Colour. The *Weſt-Indian*, *Barbadian*, and *African Civets* are next in Goodneſs; but the blackeſt is the worſt, which generally comes from the *Eaſt-Indies*.

It is a valuable Commodity, ſo that an Ounce, when pure, has been valued at forty Shillings. It is often adulterated with Ox-Gall, Storax and Honey. It is much to be preferred to Muſk, becauſe the Scent is finer. It is of a ſubtile and clear Nature, and contains a great deal of Oil and volatile Salt. It comforts the Spirits, and is good againſt all Diſeaſes of the Head, Brain, and Womb. The following Mixture is good to perfume Cordial Waters and Powders for the forementioned Intentions. Take one Ounce of *Civet*, Muſk in fine Powder, ſix Drams; Ambergreaſe two. *Civet*, put up in a Peſſary, or Piece of Spunge, prevails againſt hyſterical Fits and Vapours; put into the Ears with a little Cotton, it helps the Difficulty of Hearing. If that Mixture be ground with an equal Quantity of the Yolk of an Egg, it ſo opens its Body, as to make it mix exquiſitely with an aqueous Subſtance; alſo with twelve or ſixteen Ounces of Spirit of Wine, you may draw a moſt admirable Tincture for the aforeſaid Purpoſes; and being anointed upon the Glans, juſt before Coition, it is ſaid to cauſe Impregnation, and cure Barreneſs. *Civet* is anodyne and good for the Colick in Infants, if applied to the Navel.

[The Creature which produces the *Civet*, is the *Catus Zibethicus Pit. Mem.* 98. *Animal Zibethicum Raii Syn. An.* 178. *Zibethicum Animal Americanum Rech. in Hern. Hyæna Veterum Bellon. Obſ. Ed. Cluſ.* 94.

The *Civet* is an excrementitious Subſtance, naturally ſeparated and collected in Bags of a glandulous Subſtance, both in the male and female Animals; the Bag in the Male is placed between the *Penis* and Teſticles, and in the Female between the *Uterus* and *Anus*.

Its external Uſe in hyſterical Caſes, which was once very common, is found to be not only uſeleſs but hurtful, and therefore wholly laid aſide at preſent.]

6. *Of the* Caſtor, *or* Beaver.

Pomet. THE *Caſtor*, or *Beaver*, called by the *Latins*, *Caſtor* or *Fiber*, is a four-footed Animal, ranged by Naturaliſts amongſt the amphibious Creatures that live equally on the Land and in the Water. At Land it feeds upon divers Fruits, Leaves, and Barks of Trees, and eſpecially of the Willow-Tree; and in great Rivers upon Shell-Fiſh, and ſuch other Prey as it can catch. This Variety of Food is the Reaſon why its hinder Parts to the Ribs have the Taſte of Fiſh, and they are eaten as ſuch upon Faſting Days; and all the reſt has the Taſte of Fleſh, ſo that it is not uſed but at other Times.

The *Beaver* has a Head almoſt like that of the Mountain Rat, but bigger, and proportionable to the Bulk of his Body, which is thick and groſs, about the Size of a Pig of ſix Months old: They have pretty large Teeth; the under ſtanding out beyond their Lips three Fingers Breadth; the upper about half a Finger, being very broad, crooked, ſtrong, and ſharp, growing double, very deep in their Mouths, bending circularly, and of a yellowiſh Red. They take Fiſhes upon them as if they were Hooks, and will gnaw aſunder Trees as thick as a Man's Thigh, and are able to break in Pieces the hardeſt Bones; wherever the *Beaver* bites he never loſes his Hold till his Teeth meet together. The Briſtles about their Mouths are as hard as Horn; their Bones are ſolid; the fore Feet are like a Dog's, and their hinder like a Swan's. Their Tail is covered over with Scales, being like a Soal, about ſix Inches broad, and ten Inches long, which they uſe as a Rudder to ſteer with, when they ſwim to catch Fiſh. And tho' their Teeth are ſo terrible, yet when Men have ſeized them by the Tail they can govern them as they pleaſe. The *Beaver* of *Dantzick* has Hair upon four or five Inches of the Tail, and the reſt of it is ſcaly. The whole Skin of the *Beaver* is covered with two Kinds of Hair, both very ſoft, but the one much longer than the other; the ſhorteſt is a kind of fine Down, and is what is uſed in making Hats.

The *Beavers* make themſelves Houſes of ſquare Timber, which they gnaw down with their Teeth, almoſt as even as if it were ſawed, and almoſt as equal as if it were meaſured. They lay theſe Pieces a-croſs, and each is let down by large Notches into the other; ſo that having dug a Hole for their Foundation, they build ſeveral Stories, that they may go higher or lower, according to the Riſe or Fall of the Water.

I ſhall not diſpute the Exiſtence of thoſe little Teſticles, furniſhed with all the Veſſels neceſſary for Generation, which the Royal Academy have diſcovered ſome Years ago in the Thighs, and near the Groin of a *Beaver* which they diſſected. But

But having never ſeen theſe little Teſticles placed in the Rank of Drugs, nor any Things ſold for *Caſtoreum*, but that Part of the Animal which the Ancients called *Fibri Teſtes*, without troubling myſelf whether theſe are true Teſticles or no, ſince this Treatiſe is not about Generation, it will be ſufficient for me to give a juſt and exact Deſcription of thoſe Parts of the Animal, which we ſell under the name of *Caſtoreum*, and which will be the more neceſſary, as I know no Part of an Animal more commonly ſophiſticated.

That which we call *Caſtoreum*, is a fleſhy Subſtance, contained at the Bottom of two pretty large Pouches, equal, diſtinct, placed Side-ways, one by the other, and wrapt in one common Bag, fixed below the Fundament of the Animal, between the two Thighs, and covered by the common Skin that encloſes the whole Belly, and there outwardly repreſenting two Teſticles, like thoſe of a Boar; which though they lie within, yet may be diſtinguiſhed through the Skin, and taken in the Hand, although they do not hang down as the Teſticles of other Creatures. Having opened the hairy Skin, you meet with the common Pouch, and in that the two others diſtinct from one another, which contain the Matter which we call *Caſtor*.

The Cuſtom is to tie theſe two Pouches as they are found, and hang them in a Chimney till they are well dryed, and the Matter contained in them be grown hard, and the outward Pouch has contracted a brown Colour.

After this, when theſe internal Pouches are opened, there is found in the lower Part of them a Matter fleſhy, ſolid, and pulveriſeable, of a Colour like Cinamon, intermixed with very thin Fibres and Membranes, and of a Scent that is extremely ſtrong. There is likewiſe found in each of theſe leſſer Pouches, a little above the fleſhy Matter, another Pouch, diſtinct, but much leſs, and faſtened to that which encloſes it; it contains an oily Moiſture, of a Scent as ſtrong as the former. This being new is like the beſt Honey before it is coagulated, but becomes of the Colour and Subſtance of Suet as it grows old.

Theſe are the true Marks of the *Caſtor* that is ſold, to be uſed in Treacle, Mithridate, and divers other cephalick and hyſterical Compoſitions; and theſe I can avouch to be true, having bought and ſold a great deal, and knowing that no Perſon of Underſtanding will contradict me. But I can alſo ſpeak with the more Certainty upon what Mr. *Charas*, who dwelt near the *Rhoſne*, and thoſe Places where theſe Animals are taken, has aſſured me; namely, that he bought of a Peaſant's Daughter the Pouches of a *Beaver*, juſt taken from the Body, which he hung up in the Chimney, being then of the Colour of Fleſh, and appearing like Teſticles, which Shape they retained when dried; that they then weighed fourteen Ounces; and being cut open, had all the inward Parts, as I have deſcribed them: That he afterwards got a live *Beaver* from the ſame Place, which a Countryman brought him in a Tub, which was in all Things conformable to the Deſcription I have given; and eſpecially as to the Pouches, which were ſituated in the ſame Place as thoſe of a Boar, and were of ſo large a Size, that they were more than an Handful. The *Beavers* being of different Sizes, their Pouches are proportionable; ſo that when they are dried, we have them from four to ſixteen Ounces.

Theſe Animals generally inhabit Caverns in the Banks of large Rivers, among others the *Rhoſne*, the *Liſere*, the *Oiſe*, in *France*; they are alſo found in *Spain*, *Savoy*, and *Italy*. But the greateſt Quantity are taken along the *Elbe*, and the great Rivers of *Germany* and *Poland*; as likewiſe in *Lithuania* and *Muſcovy*, the Lakes of *Canada*, and *Hudſon's Bay* in *America*; but it is almoſt a general Rule, that the Fur is finer, longer, and ſofter, according to the Coldneſs of the Region they are bred in.

The Dearneſs of *Caſtor*, and the Avarice of wicked Perſons, have induced People to counterfeit it, which they do by mixing the Powder of the true *Caſtor* with Gums that there is no Neceſſity of naming, and putting them in the Skins which have contained the Teſticles of Lambs and Goats; then they hang them in the Chimney, and when they are dry and hard, paſs them off for true *Caſtor*. But it is eaſy to diſcover the Cheat, by cutting the Pouches, and looking for the Marks I have given you; of which the moſt eſſential is, that you will find none of Fibres and ſmall Skins intermixed in them. And whereas the true *Caſtor*, when pounded, will paſs through a Silk Sieve, and leave ſeveral little Membranes upon the Silk; the Gums will not paſs, but remain clotted, without any Appearance of the little Skins beforementioned.

I ſhall paſs over that which ſeveral conſiderable Authors have reported of the *Beaver*, that being purſued by the Hunters, he bites off his own Teſticles, and leaves them for his Ranſom; ſeeing he can no more bend his Body, ſo as to come at them with his Teeth, than a Boar can do; and beſides, being always near great Rivers, it is eaſy for him to eſcape by plunging into the Water.

Caſtor, diverſly prepared, is recommended in Diſeaſes of the Brain and Womb, both inwardly and outwardly. The oily Subſtance is likewiſe

uſed in Ointment, and in the Compoſition of Oil of *Caſtor*.

There was a *Beaver* diſſected in the Academy of Sciences, which was three Foot and an half long from its Noſe to the Extremity of its Tail. His greateſt Breadth was twelve Inches, and he weighed above thirty Pounds. His Colour was brown, and very ſhining, inclining to a dark Grey. His longeſt Hair was an Inch an half long, and fine like the Hair of one's Head; the ſhorter was an Inch, and as ſoft as the fineſt Down; his Ears were round and very ſhort, without Hair within, and outwardly like Velvet. He had four cutting Teeth, ſuch as Squirrels and Rats, and other Creatures have that are uſed to gnaw Things. Theſe Teeth below were above an Inch long; and the upper ones, which come ſomething forward, were not directly oppoſite, but ſo diſpoſed as to work in the Nature of Sheers, paſſing one by another, being very ſharp at the End, and cutting like an Ax; their Colour was white without, and of a bright Red within, inclining to a baſtard Saffron Colour. It had ſixteen Grinders, eight of a Side. The Claws behind were joined by a Web, like thoſe of a Gooſe; but thoſe before were without ſuch Membranes, not unlike the Mountain Rat, and they uſe them for Hands, as Squirrels do. Their Nails are cut ſloping, and hollowed like a Pen to write with. The Tail has more of the Nature of Fiſh than of a terreſtrial Animal, and taſtes like it. The Tail is covered with Scales of the Thickneſs of Parchment, about a ſmall Straw's Breadth, of an irregular hexagonal Figure, which form an *Epidermis*, or Skin that joins them together. It was eleven Inches long, and of an oval Figure, four Inches broad at the Root, and five in the Middle. This helps him in ſwimming, and to bear his Mortar that he makes uſe of in building his Houſe, which he has ſometimes of two or three Stories. His Teſticles were not faſtened to the Back-bone, as *Matthiolus*, *Amatus*, *Luſitanus*, and *Rondelet* have told us, but they are hid in the Sides of the *Os Pubis*, about the Groin, and do not appear without, any more than the Penis, nor can they be cut out without killing the Creature. It had four large Pouches, ſituated at the lower Part of the *Os Pubis:* The two firſt were of the Figure of a Pear, and had a Communication with one another; they had an inward Covering, which was fleſhy, of an aſh Colour, ſtreaked with a great many white Lines, which had ſeveral Folds, like thoſe of the outer Skin of a Ram's Scrotum, and were two Inches long; there was found in them a greyiſh Matter, of a fetid Scent, and very thick; and this is the *Caſtoreum* ſo much ſpoken of.

Chuſe the *Caſtor*, or *Caſtoreum*, of *Dantzick*; it being heavier and of a ſtronger Scent, is preferable to that of *Canada*, which is generally dry, not clean, and has very little Smell. Let the Pouches be weighty and fleſhy; and ſee that they be not filled with Honey, or any other Counterfeit, which is eaſily diſtinguiſhable; as thoſe which are ſo filled up, are bloated, ſmooth, ſhining, and, if preſſed a little, ſend forth a liquid and ſtinking Matter, of the Conſiſtence of Honey; whereas the others, on the contrary, are hard and weighty, and when they are cut, full of little Strings, and have a Smell that is ſtrong and piercing.

The Skin of the *Caſtor* is eſteemed the fineſt and ſofteſt Fur in the World, and is a valuable Commodity for making *Beaver* Hats. In *Poland* they line all Sorts of Garments with it, as making the beſt Shew, and enduring the longeſt of any Fur. The Hair ſhould be long, ſoft and ſilky; and that of the fat *Caſtor* is preferable to the lean. The Skin being burnt to Aſhes, the Powder applied to the Noſe, ſtops Bleeding.

The Fat of the *Beaver* is uſed as an Ointment againſt the Palſy, Convulſions, Hyſterical Fits, Apoplexy, and Falling-Sickneſs. Take half a Pound of *Beaver's* Fat, Oils of Roſemary, Nutmegs, Amber, and Mace, of each one Dram.

The general Virtues of *Caſtor* are in ſtrengthening the Head and Nerves, being prevalent againſt the Biting of Serpents and mad Dogs. It helps Forgetfulneſs cauſed by Sickneſs, cures Convulſions, Pains and Noiſe in the Ears from cold Humours, Coughs, Catarrhs, and Diſtillation of Rheum, provokes the Terms, cauſes a ſpeedy and eaſy Delivery to a Woman in Travail, bringing away both Birth, and After-birth, or the dead Child if that be the Caſe. It has alſo been found effectual in Epilepſy, Apoplexy, Fits of the Mother, Gripings of the Belly, and Colick. It is prepared ſeveral Ways; but a good compound Powder may be prepared with it as follows: Take pure Caſtor in fine Powder, two Ounces; Saffron, Pepper, Bay-berries, Tartar vitriolated, Camphire, of each one Dram; mix them. The Doſe is from one Dram to four Scruples, in any proper Vehicle.

Lemery.

The *Caſtor*, or *Beaver*, is a four-footed Animal, amphibious, for it can live by Land or Water. It is about the Bigneſs of a Pig of ſix Months old: Its Head is of the Shape of a Mountain Rat: Its Teeth are large, ſtrong, ſharp, and cutting: Its Body ſhort and hairy: Its Skin is covered with a very ſoft Hair, of which they make Hats: Its Tail is about a Foot long, an Inch thick, four Fingers broad, without Hair, ſcaly, grey, hollow towards the Roots,

7

The Elk



The Elk falling down in an Epileptick fit being pursu'd by ye Huntsmen.

8

Elephant

Rhinoceros



Root, ſtrengthened by Joints running into one another: Its Legs are ſhort, thoſe before reſembling a Dog's, and the hinder one's a Swan's: It feeds upon Fruit, Leaves, and Bark of Trees; and upon Fiſh when it is in the Water. It is half Fleſh, and half Fiſh. The Tail and hinder Legs are ſweet like the Tuny, having a ſolid Fat. Some of the Tails weigh four Pounds, and are accounted a great Dainty both boiled and roaſted.

If you would take hold of a *Beaver*, you muſt ſeize on his Tail, and ſo ſecure him, that he cannot turn to bite you; and by the Hold you have of his Tail you may govern him as you pleaſe.

Amongſt the *Beavers* ſome are accounted Maſters, ſome Servants. They generate in the Beginning of Summer, and bring forth in the End of Autumn. They are cleanly in their Houſes; for the making of which, they draw the Timber on the Belly of their Antients, they lying on their Backs. They love their Young. They uſe their fore Feet like Hands. And their Cry is like that of an Infant. Their Teſticles are placed at the lower Part of the Belly, between the Thighs, near the Fundament, but they lie within, under a fleſhy Skin, which is hairy, and covers all the Belly; however they may be diſtinguiſhed outwardly, and handled. When they would have theſe Teſticles, they open the fleſhy hairy Skin, under which they find the firſt common Purſe, which contains the two others in the Shape of little Purſes, or the real Teſticles of an Animal; then they tie them by the Neck, and hang them in the Chimney, leaving them till they be dry and hardened, and the outward Purſe is of a browniſh Colour, and this is what they call *Caſtor*. If you then open theſe inward Purſes, you will find a Matter which is hard, brittle, of a yellowiſh Brown, intermixed with many looſe Membranes of a ſtrong and piercing Odour; and there is another Pouch which encloſes an unctuous and fattiſh Liquor, very like Honey, which as it grows old, comes to the Colour and Conſiſtence of Suet, and is of as ſtrong a Scent as the Parts that are more ſolid.

Some of theſe Purſes are larger, ſome leſs, according to the Beaſt they are taken from. They are beſt cured by taking them out, cleanſing them purely, and drying them well in ſome ſhady Place; which when it is well done, they will keep ſeven Years. It is adulterated by Gum *Ammoniacum*, Blood, and Powder of Kidneys, *&c.* as alſo whole Kidneys put up into little Bladders; but may be diſcovered by being black, mouldy, and not apt to crumble; whereas the genuine is of a fetid, ſtrong, and unpleaſant Smell, and of a ſtrong, ſharp, biting, and bitter Taſte, and of a brittle Subſtance.

The *Caſtor* contains a great deal of exalted Oil and volatile Salt; it attenuates viſcous Humours, ſtrengthens the Brain, provokes the Terms in Women, allays Vapours, reſiſts Putrefaction, cauſes Perſpiration; is proper for Epilepſy, Palſy, or Apoplexy, and is a good Medicine for Deafneſs.

The unctuous Liquor which is found annexed to the Teſticles of the *Beaver* has the ſame Virtue, and is ſtrengthening to the Nerves.

[The Creature from which we have the *Caſtor* of the Shops, is the *Caſtor. Aldrov. de Quad. dig.* 276. *Caſtor ſive Fiber, Raii Syn. Anim.* 209. It is found both in the *Eaſt* and *Weſt-Indies*, and in many other Parts of the World, as *Poland*, *Ruſſia*, *&c.*

The *Caſtor* we uſe is the inguinal Glands of this Animal, taken both from the Males and Females, which are of different Bigneſſes in different *Beavers*, and are ſituated in the Groin, under the Teſticles, covered with a thick Membrane, and filled with an oleaginous Liquor, which in Time hardens into a pulveriſable Subſtance.

The *Ruſſia Caſtor* is greatly preferable to that of any other Country, and the Creature from which it is taken, though of the *Beaver* kind, is very different from the common *Beaver* of *Europe* and *America*.

It is an admirable Medicine in all hyſterical Caſes. The Doſe is from three Grains to ten in Powder, and from thirty to fifty Drops in Tincture.]

7. *Of the* Elk.

THE *Elk* is a wild Creature that is commonly met with in cold Countries, eſpecially in *Sweden*, *Norway*, *Canada*, and other Parts. This Animal is about the Height of a Coach-horſe, or a large Ox; the Head is very thick, the Eyes are bright and ſparkling; the Horns are ſpreading and large, like thoſe of the Deer; the Legs long and ſlender; the Feet black, and divided at the Hoof, as thoſe of the Ox or Cow; as to the Hair, it is ſoft, and of a blackiſh Yellow. I ſhall not ſtand to relate what abundance of Authors have ſaid concerning this Animal: But ſhall only obſerve, that the Name *Eland*, or *Elan*, given by the *Germans*, ſignifies Miſery; as well becauſe that this Animal lives no where elſe but in deſolate Places, as Woods, Foreſts, and the like, as becauſe he is very ſubject to the Falling-Sickneſs; and as ſoon as he is attacked with this Diſeaſe, he fails not to put his left Foot to his left Ear, to cure himſelf thereof; which has given Occaſion to the Antients to believe *Pomet.*

believe that the *Elk's* Claw, or the Covering upon the left Foot, was a Specifick for the Epilepſy.

Of all the Parts of this Animal, there is none uſed in Medicine but the left hind Foot, which is called *Ungula Alcis* in the Shops; the Buyer muſt take care, that what is offered to Sale be not the Foot of ſome other like Animal, which it is difficult enough to diſtinguiſh, and that the Leg or the Skin be with the Foot, to ſee by the Hair whether it be the left hind Foot. You ought to take care likewiſe, that it be not worm-eaten, which often happens when they are old; but on the contrary, let the Claw be heavy, black, ſhining, and very ſmooth. It is of ſome Uſe amongſt the Apothecaries, being an Ingredient in many Compoſitions for the Diſeaſes before-mentioned.

Some People eat the Fleſh as Veniſon. The Skins are dreſſed by Tanners, with Fiſh-Oil and Alum, to make Breaſt-Plates of, and to ſhelter from Rain. They may be known from a Deer or Hart's Skin, by blowing through them; for the Breath will come through, as in Buff. The Nerves are uſed againſt the Cramp, by binding the affected Part with them. The Horns are ſaid to be anti-epileptick; but the chief Virtue is ſaid to lie in the Hoof, being taken inwardly in Powder, or worn in a Ring, or hung about the Neck, ſo as it may touch the Skin, or taken, being raſped or filed like Harts-Horn.

Lemery. *Alce, ſive Alces*, or the *Elk*, is a four-footed wild Beaſt of a large Size, betwixt a Deer, an Aſs, and a Goat, having great branched Horns, bending toward the Back on the plain Edge, the Teeth or Branches of them being upwards, ſolid at the Root, and round like a Hart's Horn, but much broader. They grow as it were out of their Eye-lids, are very heavy, weighing at leaſt twelve Pounds, and are about two Feet long, which Horns they loſe every Year. It is headed ſomething like a Horſe, has long Ears, a broad Forehead, and an upper Lip ſo great, that hanging over the nether, it ſo much falls over, that it cannot eat for it but by going backwards. It is a long-backed Beaſt, with a ſhort, or almoſt no Tail, and a cloven Hoof like the Hart; his Hair is almoſt of the ſame Colour, and ſometimes of a brown Ruſſet. He has a ſtrange kind of Mane, lying both on the Top of his Neck, and underneath his Throat, where it ſticks out like a Beard, or curled Lock of Hair.

This is a melancholy Beaſt, and frequently afflicted with the Falling-Sickneſs, continuing in the Pangs thereof till the Hoof of the left Foot touch the left Ear; wherewith rubbing the Part, the Creature is thereupon immediately delivered. In the Northern Climes they live in Herds, and are taken by Hunting; for upon the ſlighteſt Wound, they are ſo timorous a Creature, they immediately fall down, and yield themſelves a Prey to their Enemies. In *Sweden*, *Livonia*, *&c.* they are taken, tamed, and uſed for Beaſts of Burden; for they are both ſwift and ſtrong, and ſerve well to draw in Sledges upon the Ice and Snow, in *Ruſſia*, *Scandinavia*, and other Northern Parts.

[The *Ungula Alcis* is the Hoof of the *Alce*, *Raii Syn. An* 86. *Geſn. de Quad.* 1. *Aldrov. de Quad. Biſulc.* 886. The Creature is of the Stag kind, and there are generally Numbers of them ſeen together. The Hoof is good in the Epilepſy, as it contains a volatile Salt like that of the Horns, *&c.* of other Animals.

The Story of its curing itſelf of a convulſive Diſtemper by the Touch of its left hinder Hoof is an idle Tale; and for medicinal Uſe the Right Hoof is therefore altogether as good as the Left, and thoſe of the fore Feet as thoſe of the Hinder.]

8. *Of the* Elephant *and* Rhinoceros.

Pomet. THE *Elephant* is an Animal that in Height and Thickneſs exceeds all the Beaſts of the Earth. It is a very understanding and tractable Creature, and is armed with a long, fleſhy, and nervous Trunk, which ſerves inſtead of an Arm or Hand upon many Occaſions. It has likewiſe the Diſcretion to extend and bend its Body ſo as to go through a Gate many Feet lower than its Body, provided it be wide enough for its Bulk. I do not believe it will be neceſſary to give a very particular Deſcription of this Animal, becauſe there is ſcarce any conſiderable Town in *Europe*, but where this Creature has been ſeen; only it may not be amiſs to inform you, that the *Elephants* come from the Eaſtern Parts of the World, but more particularly from the Great *Mogul's* Country. They are the Males only that are armed with great Teeth, or Tuſhes, at the upper Part of the lower Jaws, for the Females have none ſuch; theſe are called Ivory, of which ſeveral fine Works are made; as well as Medicines and other neceſſary Things for Life.

I ſhall not trouble myſelf to give an Account of all that has been writ by the Antients; but only take notice of ſome few Things that may be entertaining to the Reader, if they afford him no other Inſtruction. *Ambroſe Parey* gives an Account of two ſorts of Dragons which deſtroy the *Elephants* after this manner: Theſe Dragons wind themſelves about the Legs of the *Elephants*, and then thruſting their Heads up their Noſtrils, they put out their Eyes, ſting them, and ſuck their Blood till they are dead.

Pliny

Pliny affirms he ſaw an *Elephant* which learned the *Greek* Letters, and was able with his Tongue to write a *Greek* Sentence; and in the Plays of *Germanicus Cæſar*, Elephants danced after Inſtruments of Muſick, keeping Time and Meaſure. The *Elephant* is ſaid to have a kind of Religion; for it worſhips, reverences, or obſerves the Courſe of the Sun, Moon, and Stars: For when the Moon ſhines, they go to the Waters where they may ſee her; and when the Sun riſes, they ſalute or reverence his appearing, by holding up their Trunk to Heaven in Congratulation for the Light. By a kind of natural Inſtinct they have ſome Foreknowledge of their own Death; and when any of their Kind dies, they cover the dead Carcaſe with Duſt, Earth, and green Boughs. They have a paſſionate Love to their Maſters and Keepers, and ſeldom forget to revenge an Injury on thoſe that have offended them; as they are always grateful to their Benefactors. *Aynou* ſaith, an *Elephant* was cheated of the half of his daily Allowance by his Overſeer; by chance the Maſter came and ſerved him, upon which the Beaſt divided it into two Parts before his Maſter, laying one of them aſide: By this the Fraud of the Servant was detected.

Pliny ſays, that an *Elephant* which was duller than ordinary, was found by his Maſter in the Night practiſing Things, which he had taught him in the Day with much Difficulty, and many Blows. It is reported they will live two or three hundred Years, if not prevented by extraordinary Accidents. They only breed in hot Countries, and ſcarcely can bear Cold and Winter Weather. As to their Teeth, they are often found very large. An *Elephant's* Tooth was ſold to a *Venetian* Merchant about twelve Feet long, and three Feet Diameter; and it weighed ſo heavy, that he could not lift it. *Vertomannus* ſaith, that he ſaw in the Iſland of *Sumatra* two *Elephants* Teeth, which weighed 336 Pounds. When theſe fall off, which is about every tenth Year, they bury them in the Earth with their Feet.

The Ivory, which the *Latins* call *Ebur*, is the Teeth, or rather the Weapons, or Arms of the Male *Elephant*; the beſt and whiteſt of which come from *Angola*, *Ceilon*, and other Parts of the *Eaſt-Indies*. The Trade of Ivory, or *Elephants* Teeth, is very great in *France*, as well as *England*, for many Purpoſes. There is a Spirit and volatile Salt made from it, by the Retort, which is highly eſteemed in Diſeaſes of the Heart and Brain. The Shavings of Ivory are uſed with thoſe of Hartſhorn in Ptiſans: they are cooling, drying, and aſtringent, a peſtilential Antidote, moderately binding, and ſtrengthening the Bowels. Take Filings, or Raſpings of Ivory, half a Dram; Powder of Man's Skull, Bezoar Mineral, of each fifteen Grains; mix them for a Doſe in the Epilepſy, or any malignant Fever. Mixed with *Japan* Earth, and Jeſuits Bark, it is good for the *Fluor Albus*, Bloody Flux, Weakneſs of the Back, *&c.* Likewiſe Cochineal and Saffron being added, it becomes an excellent Cordial.

Ivory Black is made of burnt Ivory, that is taken from the Fire whilſt it retains its Blackneſs, is then pounded, and with Water made into little flat Cakes or Troches for the Painters, which, when good, ought to be very finely ground, ſoft, and brittle. The Apothecaries, or others, who diſtil Ivory by the Retort, inſtead of throwing the burnt Ivory that remains in the Retort away, may pound it, and make it into little Cakes, or Troches, as I have ſaid before, and then ſell it to thoſe who buy Ivory Black, or elſe put it upon a good Coal Fire, to reduce it to a white Powder, which is called *Spodium*, or burnt Ivory.

Spodium, or Ivory calcined to a Whiteneſs, is alſo Ivory burnt for the Purpoſe, that it may be ſerviceable in Medicine. The beſt is that which is white within and without, heavy, eaſy to break, in fine Pieces, the leaſt full of Dirt and Filth that may be. They reduce this to an impalpable Powder, upon a Marble, and make it into little Cakes or Lumps, and this is what we call prepared *Spodium* of Ivory. The ſame Virtues are attributed to this, as to Coral and other Alkali's. The Antients, beſides Ivory, burnt Canes or Reeds; and the Canes thus reduced to Aſhes, were alſo called *Spodium* or *Antiſpodium*. The Ivory *Spodium* ſtrengthens the vital Parts, reſiſts malignant Fevers, prevent Micarriages in Women, helps Conception, cures Vapours and Fits, and likewiſe kills Worms in Children.

The *Rhinoceros* is a four-footed Animal, of the Size of a Bull, whoſe Body reſembles moſt the wild Boar. He is ſo called, becauſe of the Horn that grows out of his Snout, which is black, about a Foot and a half long, hard, pyramidal, ſolid; the Point or Tip whereof turns up again towards the Crown of the Head. This Animal is covered all over with ſtrong Scales. In like manner the Legs are ſcaled to the Hoofs, which are parted into four diſtinct Claws.

This Animal is an Enemy to the *Elephant*, and, in fighting with him, fixes his Horn in the ſoft Part of the *Elephant's* Belly; for which Cauſe it is ſaid that an *Elephant* will run from him. When they fight they whet their Horn before-hand againſt Stones. They are not fierce againſt Mankind without great Provocations. The Cry is like the Grunting of a Hog. The *Indians* make Bottles of their Skins to put Liquors in. The Powder being

being infuſed in Wine, or taken by itſelf to a Scruple, is good againſt malignant Diſeaſes. The Horn, which is chiefly uſed as the Unicorn's, is ſaid to be good againſt all contagious and malignant Fevers; for being a high Alkali, both fixed and volatile, it encounters and deſtroys the malignant Acids, which ſtir up and influence the moſt pernious Diſeaſes. It is reckoned a ſingular Sudorifick.

Elephas, ſive Elephantus, is a Quadruped, eſteemed the biggeſt in the World, of a monſtrous Shape: The Head is great and deformed; the Mouth ſo large, that a Man's Head may as eaſily enter into it, as a Finger into the Mouth of a Dog: Their Eyes are really large in themſelves, but appear ſmall in Compariſon, and their Ears little, in Proportion to the reſt of the Body, not much unlike the Wings of a Bat. The Teeth on either Side are four, to eat with and grind their Food, with two others, one on each Side, which hang forth beyond the reſt. It has a Trunk at the End of the Snout, called *Proboſcis, ſeu Tuba, ſeu Manus Naſuta*, which is a large hollow thing, hanging from his Noſe, like Skin, downwards, ſerving inſtead of a Hand. When he feeds, it lies open to draw in both his Meat and Drink; by this he receives of his Keeper whatever he gives him, and in Swimming draws through it his Breath. It is crooked, griſtly, and inflexible at the Root, next the Noſe, where it has two Paſſages, one into the Head and Body, by which the *Elephant* breathes, the other into the Mouth, by which he receives his Meat. With this he fights in War, and is able to take up a ſmall Piece of Money from the Ground, or any other Place; with this he can draw up a great Quantity of Water, and ſhoot it out, to the annoying of his Enemy. *Lemery.*

He is ſaid to have four *Venters*, and Lungs four Times as big as an Ox. His genital Member is like that of a Horſe, but leſs; and the Teſticles lie inward about the Reins. The fore Legs are much longer than the hind Legs, of ſhort Joints, and of equal Bigneſs both above and beneath the Knees; the Ancle-Bones are very low; he bends his hind Legs as a Man when he ſits, but not both together, and ſo leaning on one Side, ſleeps moſt commonly againſt a Tree. Their Feet are round like Horſes, and as broad as a Buſhel, having five diſtinct Toes upon each Foot, which are very little cloven, but without Nails. They are for the moſt part of a Mouſe Colour, or darkiſh Brown. The Skin is harder on the Back, and ſofter on the Belly, without any Covering of Hair or Briſtles, unleſs here and there one ſcatteringly: It is ſo tough, that a ſharp Sword or Iron cannot pierce it. The Tail is like an Ox's, but without Hair, except at the End. The Sound or Noiſe they utter has the moſt Reſemblance to braying, and ſeems as if always hoarſe.

The *Rhinoceros*, called ſo from carrying his Horn upon his Noſe, is a large four-footed Animal, that looks as if he was ſomething of the Boar Kind, only that he is much larger, and more lubberly and dull. His Head is thick, and encloſed in a ſort of flat Cowl, for which Reaſon, according to the Rev. Father *Le Comte*'s Memoirs of *China*, the *Portugueſe* have given him the Name of *Moine des Indes*, or the *Indian* Monk. By reaſon of his Horn ſo advantageouſly placed, he becomes formidable to the Bufflers, Tigers, and Elephants, which he engages ſometimes. This Animal is found in the Deſarts of *Africa*, in *Aſia*, at *Siam*, and in *China*, where they feed upon the Branches of hairy and prickly Shrubs and Trees. The Horns, the Nails, and Blood, are all uſed in Medicine, containing in them a good deal of volatile Salt and Oil. They are uſeful to reſiſt Poiſon, ſtrengthen and fortify the Heart, procure Sweat, ſtop Fluxes of the Belly, and are good againſt all contagious Diſeaſes. The Doſe is from a Scruple or two, either in Infuſion or Powder, which drunk in Wine, purifies the Blood, and is a good Preſervative againſt infectious Air.

[Ivory is the Tuſks of the Elephant, *Elephas*, *Raii Syn. Animal.* 131, *&c.* The beſt Ivory we have is from the Iſland of *Ceylon*. The Shavings of it boil into a Jelly like thoſe of Hartſhorn, and have the ſame Virtues; and the *Spodium ex Ebore* is now never made, becauſe the burnt Hartſhorn is found to be the ſame Thing, in regard to all its Virtues.

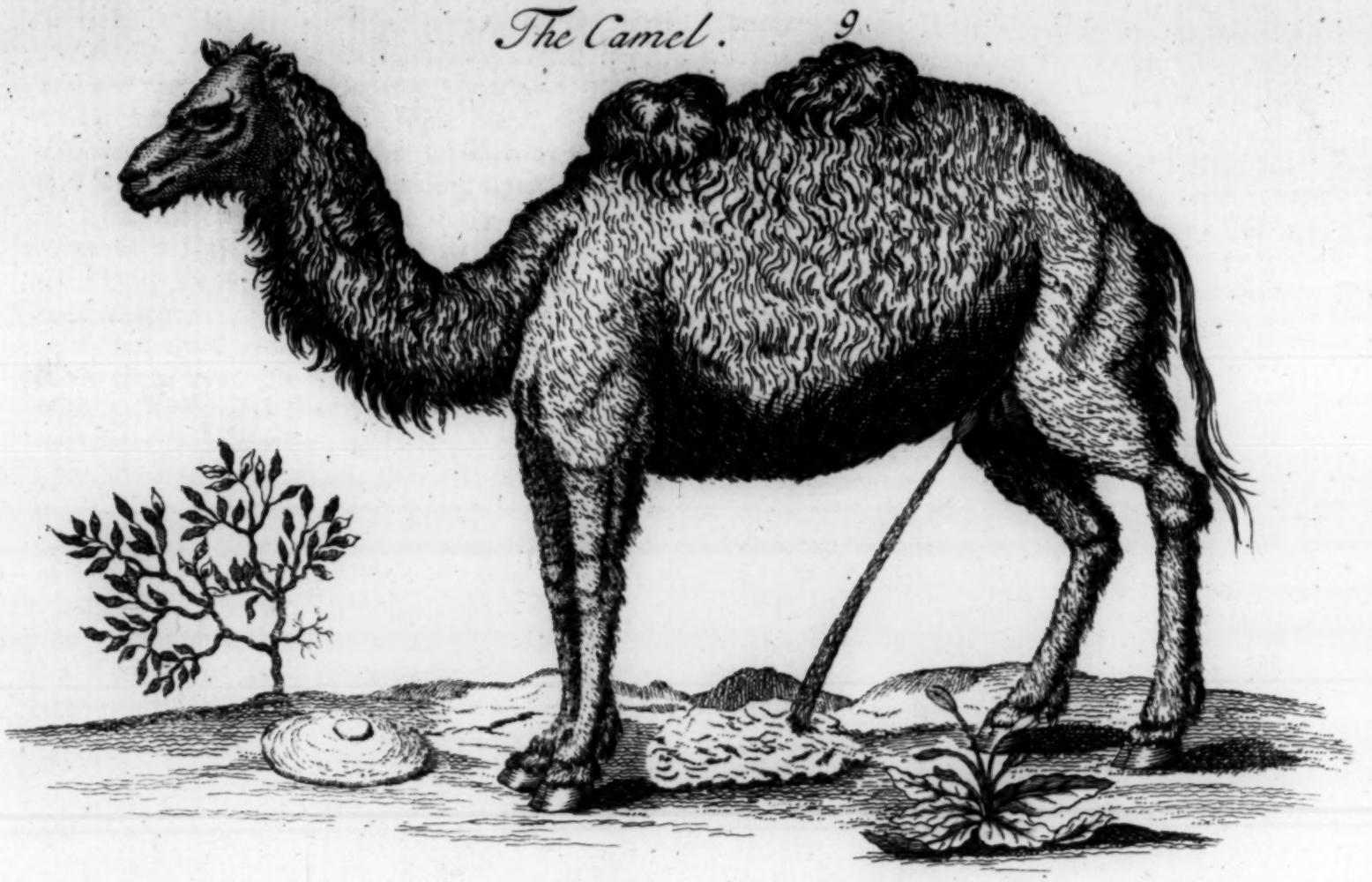
The *Rhinoceros* I have already had occaſion to ſpeak of, in the Chapter of the *Unicorn*.]

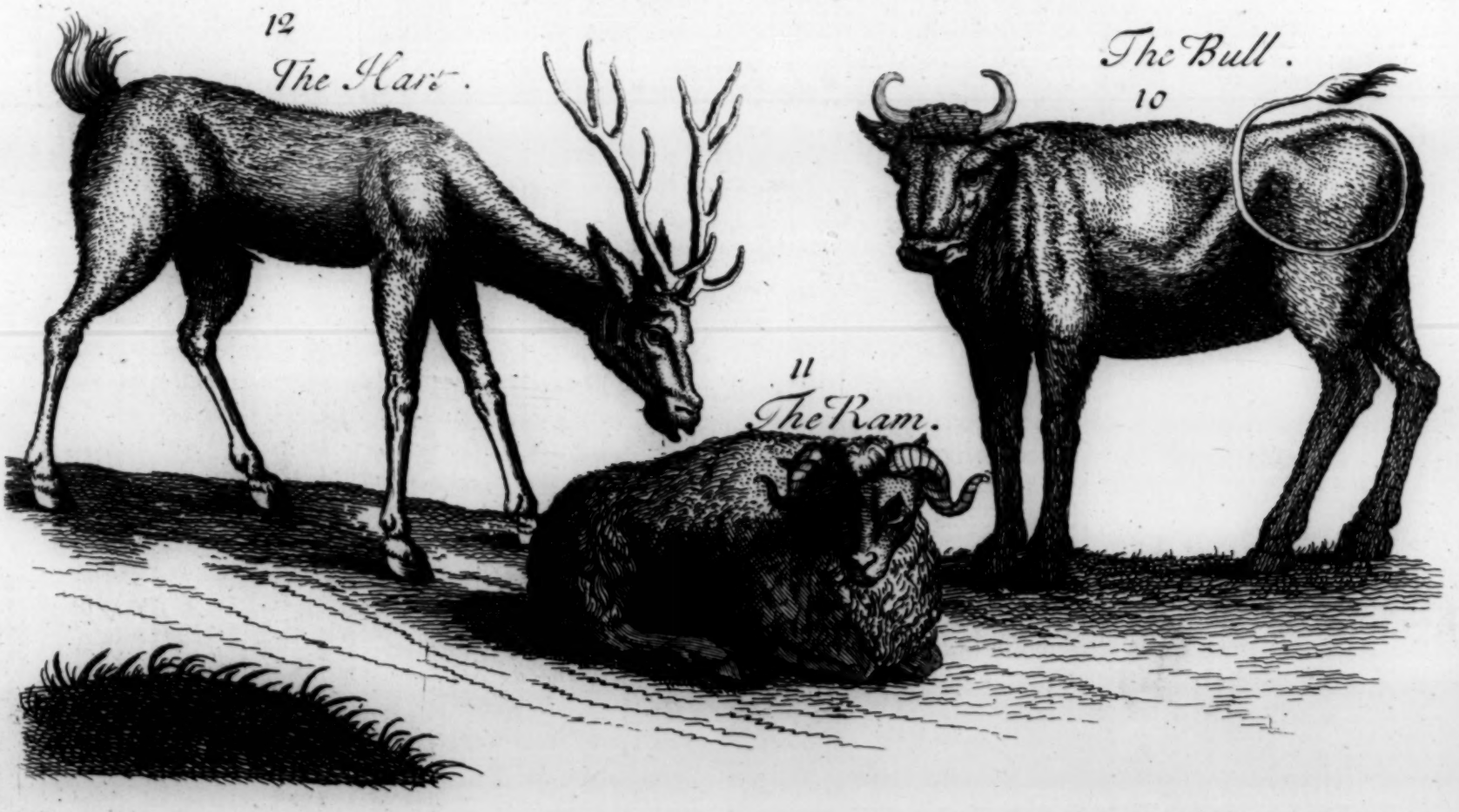
9. *Of the* Camel.

THE *Camel* is a gentle domeſtick Animal, whereof there are great Numbers throughout all *Africa*, and particularly in *Barbary*, and the Deſarts of *Getulia* and *Libya*, and they are the greateſt Riches of the *Arabs*. Thoſe of *Africa* are better than the other, becauſe they will travel forty or fifty Days together upon Barley only, and ten or twelve without eating or drinking at all. The Female carries her Young eleven Months. When the *Camels* travel in the Caravan, the Drivers of them whiſtle and ſing; for the more they encourage and pleaſe theſe Animals, the better they march. Their Food is Graſs, Hay, Thiſtles, Barley, Oats, Ruſhes, and Herbs. *Pomet.*

There

The Camel. 9





There are three Kinds of *Camels*; thoſe called *Hegin* are the biggeſt, and will carry a thouſand Weight. The ſecond Kind are what they call the *Bechet*, that have two Bunches on their Back, and are the beſt to ride upon; but theſe are only to be met with in *Aſia*. The third they call *Dromedaries*, which are the ſmalleſt and fineſt, and fit for no other Uſe but riding upon, and are ſo ſwift, that they will travel thirty five or forty Leagues a Day, and continue ſo to do nine or ten Days, through the Deſarts, with little or no Suſtenance.

When theſe Animals are to be loaded, they ſtrike them over the Knees and upon the Neck with a Stick, and they kneel upon the Ground to receive their Burden; and when they are loaded, upon the Sign being given, they riſe preſently with it. Theſe Creatures bear Hunger and Thirſt with great Patience. Some ſay they carry Water in their Stomachs a long time to cool them, by means of their large Ventricle, about which they find a conſiderable Number of Bags incloſed in the Tunicles or Coats thereof, in which it appears theſe Animals keep Water in reſerve. And hence it is that ſome Perſons affirm, that when the *Turks* go with the Caravan, to *Meccha*, and Water is ſcarce, they kill their *Camels*, to drink the Water they have in their Stomachs. It is from theſe Animals we have the Hair that is called by their Names, and of which ſeveral fine Stuffs are made; the beſt of which is that on the Back, and the leaſt full of white Hair: In ſhort, the *Camel* of all Animals is the moſt gentle, the leaſt chargeable to keep, and brings the greateſt Profit to his Owner.

Of natural Sal Ammoniack.

Sal Armoniack, or rather *Natural Ammoniack*, is a Salt white within and without, of a ſaltiſh Taſte, pretty like common Salt, only that it is more pungent. It uſed to be brought us from *Arabia* or *Lybia*; but at preſent we have very little from thence, but the *Venetians* and *Dutch* have found out a Way of making a Compoſition that near reſembles it in its Virtues; there is however a great deal of Difference in the Figure betwixt the natural and artificial.

When the *Turks*, and other People of *Aſia* or *Africa*, travel with their Caravans, their *Camels*, paſſing thro' the Deſarts, urine upon the Sands; and the Sun ſhining fierce on the Urine, fails not to dry it up, and reduce it into a white Maſs; the Truth of which I am convinced of by a Piece which Mr. *Tournefort* gave me the 6th of *March*, 1693, whoſe Figure is here repreſented, and marked A, and which I keep by me as a great Rarity. This Piece is cryſtallized; that is to ſay, it appears on the Top like Needles, as Salt Petre refined, and is hollow on the under Side, where there is alſo ſome Sand ſticking to it, which ſhews that the Salt is ſublimed by means of the Sun, and riſes up from the Sands, that are very hot.

The Antients univerſally agreed, that there was a natural *Sal Ammoniack*; that this Salt was found in the *Lybian* Sands, and that it was made from the Camels Urine which travelled to the Temple of *Jupiter Ammon*, from whence it took its Name: And others ſay that it comes from the *Greek* Word *Ammi*, which ſignifies Sand; and therefore we ought not, as is commonly done, to call it *Armoniack*, but *Ammoniack*. There is beſides this, another natural *Ammoniack*, or rather more properly ſpeaking, an artificial one, which is made after the ſame Manner as we make *Salt Petre*. It is, drawn from a kind of Earth, or ſaltiſh Scum, that ouzes out of old Caverns, and the Chinks of Rocks, betwixt *Labor*, *Thanuſſeri*, and *Tzerhint*. But as theſe two Salts are almoſt unknown to us, and we meet with but very little if any of them, we muſt content ourſelves with that brought from *Venice* or *Holland*; but the laſt is chiefly what comes to *Paris*, eſpecially in Time of Peace.

Of artificial Sal Armoniack.

This *Sal Armoniack*, or rather *Acrimoniack*, or, according to ſome, *Acrimonial*, is a Maſs or Compoſition of ſeveral Things, made in Shape of a Pot-lid, which the *Venetians* or *Dutch* make, according to the Relation of ſeveral Authors, from human or animal Urine, common, or Sea Salt, and Chimney Soot, boiled all together, and ſublimed into a Salt, and formed into Cakes, as we have it now brought to us. Some have aſſured me that *Sal Armoniack* was likewiſe compoſed of Blood, which I cannot affirm, having never ſeen it done.

They uſed heretofore, to ſend us from *Holland* and *Venice*, a *Sal Armoniack* in the Shape of a Sugar Loaf, which was much finer than what we have in Cakes at preſent.

That *Sal Armoniack* is the beſt which is cleareſt, whiteſt, and moſt tranſparent, and which being broke, there appear in it as it were Needles, and that which is the drieſt; but reject that which is black both on the Upper and Under-ſide, and which being broke, is almoſt all grey or black. Which is occaſioned by the Avarice of the Makers, who raiſe up too much of the Matters it is compoſed of, by too violent a Fire. That

which comes from *Venice* is the pureſt; but that from *Antwerp* and *Holland* is the moſt common Sort. The Uſe of it is very conſiderable for ſeveral Trades, beſides the many excellent Preparations made from it in Chymiſtry. It ſerves the Dyers, Goldſmiths, Founders, Pin-makers, and almoſt all that work in Metals, and the Farriers. And it is ſo acrid and piercing, that being diſſolved in *Aqua fortis* or Spirit of *Nitre*, it gives them a Power of diſſolving Gold, which before they could not touch.

It is aperative and ſudorifick, reſiſts Putrefaction, and is good in Quartan Agues: the Doſe is from a Scruple to half a Drachm. It is alſo good in Gargariſms, for the Quinſey, and in Eye-waters for Dimneſs of Sight; but in theſe Caſes it muſt be uſed with Diſcretion.

In the Sublimation of this artificial Salt, according to the Compoſition mentioned before, the volatile alkalious Salts of the Urine and Soot do raiſe up as much of the Acid, or Sea Salt, as they can hold; ſo that it appears this Salt conſiſts of two different Natures and Properties, to wit, of Acid and Alkali, fixed and volatile, and accordingly two different Spirits, or Salts, may be drawn from it, *viz.* a volatile alkalious Spirit and Salt, and an acid Spirit and fixed Salt.

To purify Sal Armoniack.

Diſſolve it in a ſufficient Quantity of Water, filterate the Diſſolution, and in a Glaſs Veſſel either evaporate till it is dry, by which you will have a pure white Salt, or evaporate till a Pellicle ariſes; and ſet it to cryſtallize according to the uſual Way. You may alſo purify *Sal Armoniack* by Sublimation, thus: Take *Sal Armoniack* in Powder, and Sea Salt decrepitated, or rather Smiths Scales; of each equal Parts, mix them, and put the Mixture into an earthen Cucurbit; and having placed it in Sand, fit to it a blind Head; give a gentle Fire at firſt, and encreaſe it by little and little, until you can ſee the *Sal Armoniack* riſe up like Meal, and ſtick to the Head and uppermoſt Part of the Cucurbit, and continue the Fire till nothing more will aſcend: The Veſſel being cold, gather theſe Flowers with a Feather, and keep them in a Glaſs cloſe ſtopped. They are only *Sal Armoniack*, and their Virtues the ſame with the former, being given only to one Scruple. Thus purified from Sea-Salt, the Flowers are white; but from Iron Scales they are of a yellowiſh Colour; the latter being much the better, and more ſucceſsful againſt Quartans; and both of them are very powerful Agents in all chymical Operations, for extracting the Sulphurs of Metals and Minerals, both by the Help of Sublimation, and otherwiſe. This *Sal Armoniack* purified, is alſo uſed outwardly againſt Gangrenes, and to conſume ſuperfluous and corrupted Fleſh. It prevails in a Gargariſm againſt the Quinſey and Inflammation of the Throat, and in a Bath it gives Relief in the Gout, eſpecially if Cloths be made wet therewith and applied.

Of volatile Spirit of Sal Armoniack.

Take *Sal Armoniack* and quick Lime in Powder, ſix Ounces of the firſt, and one Pound of the latter; mix them in an Iron Mortar; add three or four Ounces of Water; put them quickly into a Retort, the half whereof is empty; ſet it in a Sand Furnace, with a very large Receiver, luting the Junctures cloſe; begin the Diſtillation without Fire for a quarter of an Hour; then add the Fire, increaſing it by little and little, till no more Spirits come forth. Take off the Receiver, and immediately turning away your Noſe, put the Spirits into a Glaſs, which keep cloſe ſtopt for Uſe; you will have four Ounces of Spirit or better. This is ſtronger than that made with Tartar, being endowed with the fiery Particles of the quick Lime; which being mixed with Spirit of Wine, prevents the coagulating; whereas that made with Tartar will cauſe a *Coagulum* upon the Spot. This Spirit prepared either Way, corrects and hinders Putrefaction, more than moſt other Things in the World; and powerfully reſiſts the Poiſon or Venom of the Plague or Peſtilence; and is very profitably given againſt all putrid Fevers. The volatile Spirit and Salt are more ſubtle and penetrating, and of a kinder Taſte and Smell than thoſe which have been extracted out of plain Urine, becauſe they were not fermented and depurated by common Salt. This Spirit is good in all hypochondriacal Caſes, Suffocation of the Womb, *&c.* but chiefly againſt Diſeaſes of the Head; as Vertigo, Lethargy, Epilepſy, Deafneſs, Palſy, Trembling, and the like. In a word, it is good in all Diſeaſes proceeding from Corruption, or Obſtruction of Humours.

Of the acid Spirit, and fixed Salt *of* Armoniack.

After the Spirit is drawn off with Tartar, inſtead of Lime, there remains at the Bottom of the Veſſel ſeven Ounces, and better, of a white fixed Maſs, from which you may diſtil an acid Spirit, as you do Spirit of Salt; for indeed it is a Kind of Spirit of Salt, or little other; otherwiſe you may diſſolve it in Water, filtre and cryſtallize, ſo will you have a very good Salt againſt intermitting

termitting Fevers, given from ten Grains to thirty. This is as agreeable an Acid as any we have; and is very proper to allay the Heat of Fevers, to provoke Urine, and ſtop the too violent Fermentations of the Blood. There is another Way of making the fixed Salt, by the Means of Egg-Shells, or quick Lime, which they reduce with the former Maſs, into a clear tranſparent Body, like Chryſtal, which is a very good Cauſtick, but eaſily runs to Water; for which Reaſon, thoſe who are deſirous to keep it, put it in a Glaſs Bottle well ſtopped, ſo that no Air can enter. This fixed *Sal Armoniack* being reduced into a Liquor, is what ſome call, tho' improperly, Oil of *Sal Armoniack*; and is indeed an Oil *per deliquium*, which ſeveral Perſons keep for the Reſuſcitation of Quick-Silver.

Camelus, or the *Camel*, is a very tall tractable Beaſt, that is of mighty Service to all the People of *Aſia* and *Africa*. His Neck is long, the Body very thick and broad, having a Bunch on his Back, and ſome Kinds two. The Tail is like that of an Aſs; his Buttocks are ſmall, conſidering the Bulk of his Body, and the Legs very long. The Female goes with Young eleven, and ſometimes twelve Months; and when the young Ones arrive at an Age and Size fit for Service, they load them with Burdens as we do Horſes in *Europe*. But as this Animal is very high, ſo that it is difficult to load them, they are taught, while young, to kneel down upon their Knees to receive their Burdens; and this is the Reaſon that they become, in Time, ſo callous and hard, that they have ſcarce the Senſe of Feeling on that Part. *Lemery.*

Theſe Camels are the uſefulleſt Creatures in *Africa*. The *Arabs* make great Advantages of them, becauſe they will live hard, and endure both Hunger and Thirſt with much Eaſe, and wonderful Patience. Theſe Beaſts are great Lovers of Singing, and other Muſick; ſo that thoſe who travel long Journeys with them, ſing or pipe all the Way to make them go the faſter and more chearfully. There are three Sorts of them; the firſt, or largeſt ſized, is called *Hugium*; the ſecond, more peculiar to *Aſia*, is named *Becheti*; and the third is *Dromas ſive Dromedarius*, the *Dromedary*, which the *Arabs* call *Raguahil*; and is a ſmall, thin, lean Creature, in reſpect of the others.

All the Parts of the *Camel* yield a great deal of volatile Salt and Oil; the Fleſh being eat, provokes to Urine; the Greaſe or Fat is emollient, ſoftening, and reſolutive, proper for the Piles or Hemorrhoids: The Brain being dried and beat to Powder, is good for the Epilepſy. The Gall mixed with Honey, is reckoned proper for the Quinſey; the Milk looſens the Belly, procures an Appetite, relieves and gives Eaſe in an *Aſthma*. The Blood is ſaid to be proper to incline Women to conceive, if the Region of the Womb be fomented therewith after the menſtrual Flux. The Urine is good to cleanſe the Teeth, and make *Sal Armoniack* of. The Dung is vulnerary and deterſive, and the Milk and Fleſh good to eat, ſo that the *Arabs* feed upon them.

[The *Camel* uſed as a Beaſt of Burthen in the *Eaſt*, is the *Camelus. Jonſ. de Quad.* 67. In regard to this Creature and the *Dromedary*, it may be obſerved, that Authors have been very much divided in their Opinion about which of them it is that has two, and which but one Bunch on its Back: But the Truth certainly is, that the *Camel* common in *Aſia* and *Africa*, and conſtantly uſed there as a Beaſt of Burthen, has only one Bunch; and that the *Dromedary*, which is a very ſcarce Animal, and only found in the Poſſeſſion of great Perſons, has two Bunches on his Back, and is never uſed otherwiſe than as a Beaſt to ride on, as it is light, and travels very ſwiftly.

The Blood, Gall, Dung, and Urine of the *Camel*, are all commended as great Medicines in ſeveral Intentions, but are never uſed at preſent, except in the Share the two laſt of them have in the *Egyptian Sal Armoniack*.

In regard to the *Sal Armoniack*, the true natural *Libyan* Kind, ſaid to be produced by the Action of the Sun upon the *Camel's* Urine on the Sands, is now wholly unknown among us, nor can we any where find a certain Proof that there ever was ſuch a Thing; for what the Antients deſcribe under this Name, was a foſſile Salt of the Nature of *Sal Gemm.* But however that be, we have at preſent three Kinds of crude *Sal Armoniack* in the Shops, the common, the *Egyptian*, and the *Italian*, of which the firſt is almoſt the only kind now uſed, and kept by the Druggiſts. The firſt or common *Sal Armoniack* is made at *Venice*, in *Holland*, and in other Places, with five Parts of human Urine, one Part of common Sea Salt, and half that of Wood Soot, boiled into a Maſs, and ſublimed into the Form we ſee. The ſecond is brought from *Grand Cairo* and other Parts of *Egypt*, and is made with the Soot of *Camels*, Cows, and Pigeons Dung (which is the common Fewel of the poorer People of *Egypt*, when made up into Cakes with chopt Straw and dried) mixed with Salt, and *Camels* Urine, and ſublimed into flat Cakes in Glaſs Veſſels made for that Uſe: And the third, or *Italian Sal Armoniack*, is formed by the Soot and Smoak of burning Mountains; and gathered from the Rocks about *Puteoli*. This

is the only Kind of this Sort that can with any Juſtice be called a native or natural *Sal Armoniack*. We have, beſide theſe, a *Sal Armoniack* in Cakes like Sugar Loaves, brought to us from many Parts of the *Eaſt-Indies*, but as there is very little Difference between this and the *Egyptian* Kind, I forbore to name it as a fourth Sort.]

10. *Of the* Bull, *&c.*

Pomet. THE *Bull*, *Ox*, and *Sheep*, are Animals ſo well known to all the World, that it would be uſeleſs to give a Deſcription of them. There is ſometimes found in the Gall Bladder of Oxen, a Stone of the Colour and Shape of the Yolk of an Egg, that is ſoft, and of divers Cruſts like the Bezoar; for which Reaſon it is called the *Ox Bezoar*, or the Gall-Stone, which if good ought to be high-coloured and well-dried; for if they are purchaſed when taken freſh from the Animal, they waſte conſiderably in drying. Sometimes this Stone is ſold pretty dear, eſpecially if it falls into the Hands of Perſons who know it's Value. The greateſt Uſe that is made of it is for painting in Miniature, as they uſe Gamboge. The ſame Virtues are aſcribed to this as to *Bezoar*. But as this Stone is to be met with at home, it makes it not ſo much valued as *Oriental Bezoar*. We likewiſe ſometimes meet with a Cartilage in the Heart of an *Ox*, like that of a Stag, to which they give the Name of the Bone in the Heart of the Ox, which is now and then uſed in Phyſick, inſtead of that in the Stag's Heart, tho' improperly.

By the burning of Beef Bones, there is a Black made, called *Bone Black*; it ought to be fine, brittle, ſhining, and well ground; its Uſe is for Painting. There is a Glue made of the Cartilages, *&c.* well boiled in Water, which is caſt into Moulds, and afterwards ſpread out and dried. This is then called *Bulls* Glue, or ſtrong Glue, of which they make a conſiderable Trade in *France*, eſpecially of that made in *England* or *Flanders*.

The ſtrong *Engliſh* Glue ought to be choſe well boiled, dry, clear, and tranſparent, of a reddiſh brown, eaſy to break with the Fiſt, not gravelly or foul, but the ſmootheſt and neateſt that can be had; rejecting ſuch as when melted ſtinks much; as all the ſtrong Glues that are made at *Paris*, or thereabout, do, which are leſs valued for any Kind of Works, than that which is brought from *England*. The *Flanders* Glue ought to have the ſame Qualities with the former; but is not ſo much boiled; they uſe this Glue for Hat-making, it ſerving them better than that of *England*, as well as to paint in Water Colours.

The *Weſt-India* Company in *France* bring, eſpecially to *Roüen*, a great Quantity of Ox Hides from *Barbary*, of which the Merchants of *Roüen* make a conſiderable Buſineſs, tho' at *Paris* they ſell but few. The greateſt Share comes from *Senegal*, with the Gum and Gold Duſt. As the Merchants of *Roüen* are obliged to give Credit for three Years to the Tanners, if by Accident any Tanner come to fail or die, and that the Succeſſor of him is not able to pay for his Goods, the Merchant is permitted to open his Tan-Pits, and withdraw his Merchandize. Beſides theſe, we ſell many other things had from the Bull, as Ox-Hides from *Hungary*. The beſt are the whiteſt, and the true *Hungarian*, becauſe they are much better than thoſe which are wrought in *France*. Likewiſe *Engliſh* Calf-Skins, and others without Hair, which come from ſeveral Parts, as alſo Flocks and Beaſts Hair. And beſide all theſe we trade in Beef-Suet, from *Ireland*, which ought to be new and white.

Lemery. *Bos*, in *Engliſh* the *Bull*, *Ox*, or *Cow*, are ſluggiſh, horned Beaſts, which chew the Cud, and cleave the Hoof; the Horns of the Bull are ſhort, of the Ox very large. It is a Beaſt generally known, differing much in Shape, Size, Horns, and Colour, according to the Variety of Countries where brought forth. They yield from every Part a great deal of Oil and volatile Salt. The Fleſh of the Bull is coarſe and tough to that of the Ox. The Cow's Fleſh, if fat, is good Meat; but if old and lean, it is not eatable. The young Bullock's Fleſh is fine, but much inferior to the Ox's. Veal is a pleaſant Meat, eaſy of Digeſtion, looſens the Body, and heals the Bowels in a Bloody-Flux.

The Blood drunk warm is ſaid to cure the Epilepſy; beſmeared upon the Skin warm, it takes away all Foulneſs; and is alſo good againſt the Gout and other Pains. The Fat is emollient, and is uſed in Balſams, Ointments, and Plaiſters. It eaſes Pains proceeding from Colds; cures Kibes and Chilblains, and heals the chapping of the Hands, Lips, Nipples, Fundament, *&c.* The chymical Oil is good againſt the Gout, Palſies, Numbneſs, Contractions of the Nerves and Muſcles, Lameneſs, *&c.* The Marrow is of the ſame Effects, but much finer. The Horns are alexipharmac, and by ſome called the *Engliſh Bezoar*; the Powder raſped from the Horn much exceeding the trueſt and beſt *Oriental Bezoar*. Moreover, it is of ſingular Uſe in the Falling-Sickneſs, Fits of the Mother, Convulſions, Palſies, Lethargies, *&c.* The Hoofs and the volatile Salt thereof

are

are Specificks for all the Diſeaſes the Horns are ſaid to be good againſt.

The Gall, mixed with the Marrow and Fat of a Hen, and dropt into the Ears, eaſes their Pain. That of a Bull is ſharper and ſtronger than of an Ox or Cow; and mixed with Honey is a good Vulnerary, and cures almoſt all Diſeaſes of the Eyes, if curable. There is no better Eye-ſalve than it is. By itſelf it is a good *Collyry* againſt Blood-ſhot, Clouds, Films, Haws, or Pearls in the Eyes. Mixt with *Myrrh* and *Aloes*, it cures Ulcers of the Penis and other Parts, as alſo the Piles. Mixt with Nitre, it removes Scurf and Leproſy. The Dung is temperate, diſcuſſive, anodyne, *&c.* The Urine drank, cures the worſt Kind of Jaundice and Dropſy, by provoking to Urine; the volatile Salt and Spirit, are powerful Openers of Obſtructions. They find ſometimes in the Stomach of an Ox or Cow, a Sort of large Ball like a ſmall Apple, of a round Figure, a little flattiſh, having uſually towards the Middle a round Hole, wherein one may put one's little Finger; it is of a reddiſh grey Colour. This Ball is made of the Hairs which the Ox or Cow licks off herſelf, and which, in Proceſs of Time, ſtick one upon another 'till they are collected into a Maſs. It is reckoned proper to ſtop the Hemorrhoids and other Fluxes; the Doſe being from half a Scruple to half a Drachm, powdered and taken inwardly. It is likewiſe uſed externally, like Spunge, to deterge and dry up Wounds.

There is another Kind of this Creature, called a *Biſon*, which is but a wild Cow, Bull, or Ox, breeding in *Scythia*, *Muſcovy*, and *Scotland*; but thoſe in *Scotland* are white. It is called *Vacca Pæonica* in *Latin*; in *Greek*, *Biſon*. They differ nothing from the common Cow or Ox, ſave that their Mane is like a Lion's; and they have a Beard under their Chin, being much larger than thoſe which are common with us: Thoſe in *Scotland* are of a leſſer Kind, where they were once in vaſt Numbers, but are now moſtly deſtroyed. Their Fleſh, and all their other Parts, are equal in Goodneſs with the common Sort before treated of.

To the *Biſon* we will add the *Urus*, called in *Engliſh*, the *Ure-Ox*, or *Cow*, but unknown to the *Greeks*. Theſe alſo are a Kind of wild Oxen or Cows, differing little or nothing from our common Ox or Bull, ſave in their Magnitude or Stature, coming near to the Bigneſs of an Elephant; when grown up they are a wild untameable Creature, nor can they be made ſociable like ours, unleſs they be taken when Calves, and brought up young. They breed in the Woods of *Hercynia*, in the *Pyrenean* Mountains, in *Pruſſia*, *&c.* where the are ſaid to be ſo wild, cruel, and untameable, that they neither fear or ſpare Man or Beaſt. Their Largeneſs and Strength is incredible. Their Goodneſs for Food, and Virtue of their Fleſh, Milk, Hides, Horns, and other Parts, as alſo the Fleſh of their Calves, differ nothing from our tame ones, nor is their Beef any ways inferior to ours, but is only of a larger Kind.

[There is hardly any Part of this Animal which has not at one Time or other been celebrated for its medicinal Virtues; but what are principally uſed now, are the Gall, which mixt with the Powder of Colocynth, and applyed as a Plaiſter to the Belly, is ſaid to purge and deſtroy Worms; and the Oil of the Feet, which is an Ingredient in the Ointment of Marſh-mallows.]

11. *Of the* Ram, *or* Sheep.

SHEEP are one of the moſt neceſſary Animals for the Uſe of Mankind, and therefore bred in moſt Nations of the World, though the Difference of Climate makes ſome Difference in their Colour and Shape. The Sheep of *Greece* are leſs than the Sheep of *Ægypt*, and the *Oves Pyrrhicæ* were like Oxen, by Reaſon of their exceeding Largeneſs, their Name being deriyed from *Pyrrhus* their Maſter. The Sheep of *Chios* are very ſmall, and the Rams of *India* not much bigger than our Lambs. In *Spain* their beſt Sheep have black Fleeces, and all their Sheep bear exceeding fine Wool. Near the *Alps* they are grey, or Honey-coloured. In *Aſia*, *Bætica*, and *Erythræa*, red like Foxes. At *Canuſium* they are yellow, or Lion Tawny: And ſo alſo at *Tarentum*. In *Iſtria* and *Liburnia* the Sheep bear Wool ſo coarſe, that it may rather be accounted Hair than Wool. The Sheep of *Apulia* gave the Name of *Lana Italica* to a Kind of excellent Wool; yet it was ſhort and coarſe, good for nothing but to make Garments to ride in, and to wear in rainy Weather. The *French* Sheep are not of the beſt Kind; but the *Flemiſh* have a fine, ſoft, curled Wool; ſo alſo have the Sheep of *Mileum*, *Attica*, and *Gadilonea*. Thoſe in *Pontius* and *Cappadocia* coarſer. In *Scotland* the Sheep bear good Wool; but that of the *Engliſh* Sheep excels, in Softneſs and Fineneſs, all other Wool in the World, except the *Spaniſh* Wool; and yet the *Spaniards* had the Sheep which bears that ſuperfine Wool firſt from *England*. In *Æthiopia* the Sheep bear no Wool at all, but Hair like Camels Hair. In *Gortynis* the Sheep are red, and have four Horns. In ſome Parts of *India* both Sheep and Goats are as big as Aſſes, and bring often four Lambs at a Time, never leſs than three.

three. The *Arabian* Sheep are in Size, Figure, and Colour, like the *Engliſh* Sheep; but there are two Sorts amongſt them that are diſtinguiſhed by the Length and Breadth of their Tails, being ſo extravagant both Ways, that the Sheep cannot move from one Place to another without Aſſiſtance.

Beſides the common Sort of Sheep, there are two Kinds of wild Sheep, the *Muſmon* and the *Subus*. The *Muſmon* is not unlike a common Sheep, except in its Wool, which ſeems to be rather the Hair of a Goat, being the ſame which the Antients called *Oves Umbricæ*, the *Umbrian Sheep*. Some will have this to be a Kind of wild Goat, which it does not ſo much reſemble, for it wants the Goat's Beard, and its Horns are abſolutely like Rams Horns. They are bred in *Corſica*, *Sardinia*, and *Spain*; and are ſaid to be got between a Ram and a She-Goat, as the *Cinyrus* is between an He-Goat and a Ewe. The Form of the *Muſmon* is much like a Ram; his Horns grow from his Head like a Ram's, and bend backwards almoſt to his Ears; it is exceeding ſwift of Foot, not much inferior to the ſwifteſt Beaſt. The Skins of them are ſo thick, that in the Place where they are bred, they are uſed for Breaſt-Plates. Theſe Sheep live on the Mountains, and are admirable Meat, but are ſcarcely found any where now but in *Sardinia*.

The *Subus* is a Kind of wild, or rather Water-Sheep, of an amphibious Nature, living both on the Land and in the Water; he eats Fiſh, but tarries no longer in the Water than 'till his Belly is full. This Sheep is of a bright yellow Colour, like thoſe of *Crete*, but its Wool is not ſo rough. It has two large Horns upon its Forehead, ſwims well, and is very greedy after Blood. Thus much of the wild Kind, and ſuch as are not common; we ſhall now return to thoſe that are ſo.

The Sheep is the mildeſt and moſt inoffenſive of all the Creatures upon Earth, of which there is no Part but what is profitable and uſeful to Mankind: The Fleſh, Blood, and Milk are for Food; the Skin and Wool both together, and apart for Cloathing: The Bones for making of Teſts or Coppels to melt Gold in; the Guts for Inſtruments of Muſick and Bow-ſtrings; the Horns and Hoofs for Trumpets, and other little Toys, beſides their phyſical Uſe, and the Dung for manuring of Land. Their Fleſh is the univerſal Food of *Europe*; and in ſome Countries they make Butter and Cheeſe of their Milk. As to their Wool, they are very profitable in all Nations, being ſhorn in the cold Countries once a Year; but in the hotter Countries twice a Year. In ſome Places they are never ſhorn; but according to the old Cuſtom, they pull the Wool from the Sheep's Back, whence the Name *Vellus*, a Fleece, is ſuppoſed to come *à Vellendo*, from pulling.

Having thus far given a Deſcription of this Animal, I ſhall now proceed to ſhew its medicinal Uſes. From the Horns is drawn a volatile Oil, Spirit, and Salt; which are efficacious againſt Diſeaſes of the Head, Brain, and Nerves; as Epilepſies, hyſterical Fits, Vapours, *&c.* From the Hoofs and Urine you may extract the ſame Preparations. The Dung is a prevalent Medicine againſt the Jaundice, Dropſy, Cholick, Pleuriſy, Spleen, Stone, Gravel, Scurvy, *&c.* taken either in Powder, Tincture, or Decoction. The Dung made into a Cataplaſm with Camphire, Sal Armoniack, and a little Wine, opens, digeſts, attenuates, and eaſes Pain. It is excellent in Abſceſſes about the Ears and other Emunctories, Swellings in Womens Breaſts, Pain of the Spleen and Gout.

The Skin, beſides its Uſes for Leather, Parchment, Size, *&c.* has ſome medicinal Uſes of conſiderable Moment. A Lambſkin, newly taken off and applied hot, is an admirable Thing to give Eaſe in Pain, ſtrengthen any weak Part, and cure a Bruiſe when newly received, as is alſo a ſtrong Decoction made of it in Claret, bathing in it as hot as can be endured, it will aſſwage Tumours, ſtrengthen weak Joints and Limbs, and reſtore a Waſting of the Parts, from an Atrophy or Conſumption; and ſome ſay it is powerful enough to remove a *Diabetes*.

The Tallow and Cawl ſerve for making Balſams, Ointments, and Emplaſters; and the Marrow is good againſt the Cholick, Gripings of the Guts, and Exulcerations of the ſame. The *Oeſiphus* is the Sweat of the Sheep condenſed upon the Wool, and making it greaſy. The People who waſh the Wool ſave it, and put it up in Barrels to ſend to different Places; moſt of what we ſell is brought from *Berry* and *Beauce* in *Normandy*, but the Demand for it is now grown very ſmall. It ought to be choſen new, of a middling Conſiſtence, for the longer it is kept the more it hardens, and will in Time come to the Conſiſtence of hard Soap; the Smell alſo ought to be tolerable, for there is ſome ſo ſtinking, that there is no coming near it. It ought to be of a greyiſh, or Mouſe Colour, and as clean as may be. In long keeping it acquires a perfumed Smell, as I have experienced. It is emollient, diſcutient, and anodyne, being uſeful againſt Contuſions, Strains, and Weakneſs of the Joints and Limbs. We alſo trade in Mutton Suet, eſpecially that of *Holland*, which ought to be of a clear white. The Guts being cleanſed, dried, and twiſted, ſerve for Strings to Bows and Inſtruments of Muſick. A

Jelly

Jelly made of Sheeps Feet, is prevalent in Conſumptions, Fluxes of the Bowels, Exulcerations, and the like.

There is great a Trade carried on throughout the World with Wool; and, amongſt the reſt, *Perſian* Wool is in great Vogue. The beſt of which is the ſofteſt, and leaſt full of long Hairs; but *Spaniſh* Wool is reckoned the fineſt and moſt ſaleable Commodity; of which there are theſe ſeveral Sorts: *Vigognia* and *Segovia* Wool the fineſt Sort, the ſmall *Segovia* and *Segewen Segovia* of *Caſtile*, &c. The ordinary Sort of *Navarre* and *Aragon*; the fineſt white Wool of *Sevil*, *Malaga*, and *Portugal*. Beſides theſe, there are the *German* Wools of *Roſtock*, *Stralſund*, and *Anclam*, *Newmark*, *Weydacker*, *Stetin*, *Thoorn*, *Dantzick*, *Pruſſia*, *Lunenburg*, and *Bremen*. The Wool that is produced in *Berry*, and the adjacent Parts of *France*, is the longeſt, and generally the coarſeſt in *Europe*.

[Almoſt every Part of the Sheep have, like thoſe of the Bull, been celebrated for ſome medicinal Virtue; but the preſent Practice takes very little Notice of any of them, except of the Suet as in an Ingredient in Ointments and Plaiſters.

The *Æſypus* is now hardly any where to be met with, though it has always held the Credit of a uſeful external Remedy, as indeed all Animal Fats may, with very good Reaſon, be ſuppoſed more ſubtile and penetrating, from the Share of volatile Salt they contain, than thoſe expreſſed from vegetable Subſtances.]

12. *Of the* Hart, *or* Deer.

Pomet. THE *Deer* is an Animal ſo well known every where, that it would be needleſs to give a Deſcription of it. I ſhall only inform you that there are three Kinds underſtood by this general Word *Deer*, viz. *Firſt*, The Hart and Hind, which are called in *England* the *Red Deer*; *Secondly*, The *Fallow-Deer*; and *Thirdly*, The *Roe-Buck* and *Doe*. All which are Animals of very long Lives, as may be ſeen by a Stag's Horn kept at the Caſtle of *Amboiſe*, of a prodigious Length, which teſtifies the extreme Age of the Creature that bore it. Some *French* Hiſtorians relate, that *Charles* the Sixth killed a *Deer* in the Foreſt of *Senlis*, which had a Golden Collar about his Neck, wherein were engraved theſe Words, *Hoc* Cæſar *me donavit*, Cæſar *gave me this*. This anſwers to a Story that paſſes in *England*, where it is reported, that King *James* the Firſt, in hunting, took a *Hart* with a Collar, having an Inſcription with *Julius Cæſar's* Name thereon. But as to the Longevity of the Creatures, antient Authors have been abundantly more profuſe in their Allowances than the Moderns; for it is affirmed by ſome of the former, as a poſitive Truth, that *Agathocles*, King of *Sicily*, hunting in *Calabria*, took a *Hart* with a Collar upon him, on which was written *Diomedes Dianæ*, which was ſuppoſed to be done before the Siege of *Troy*, which was a thouſand Years before his Time.

The red and fallow *Deer* are generally found in all Countries of *Europe*, and ſeveral Parts of *Aſia*, *Africa*, and *America*, in Parks, Woods, or Foreſts, feeding upon Graſs, Hay, Herbs, and Leaves of Shrubs and Trees. The *Roebuck* is bred chiefly in *America*, *Syria*, *Arabia*, *Greece*, and ſeveral Parts of *Africa*, in *Lycia*, *Italy*, *Spain*, the *Alps*, and *Germany*. It is obſervable, that the *Lycian Roes* never go over the *Syrian* Mountains; yet their Delight is wholly among Hills and Rocks.

As to the medicinal Uſes of the Parts of theſe Animals, they are in the main one and the ſame; and therefore in treating of them, we ſhall do it generally for all at once. The Horns are the principal Parts in Uſe, whereof there are many Remedies prepared; as the Raſpings, the calcined Powder, the Jelly of Harts-Horn, the Oil, Spirit, and volatile Salt; and the Stag's Head Water, which is an excellent Medicine to facilitate Delivery, reſiſt Poiſon, and cure malignant Fevers. The Doſe is from one Ounce to four, but thoſe who want it ſhould take care to buy it of honeſt People, it being very ſcarce The Oil, Spirit, and Salt are great Cordials, and good againſt fainting and ſwooning Fits, Heart-burnings, Convulſions, Falling-ſickneſs, hyſterical Fits, and provokes Sweat; the calcined Powder ſtops Fluxes. The Hoofs have the ſame Virtues with the Horns, but are much more powerful Cephalicks; the Spirit, or volatile Salt, or Oil, being excellent in Epilepſies, and Fits of the Mother. The Bone, or rather Cartilage, that is found in the Heart of an old Deer, is ſaid to be cordial, and is brought into the Confection of *Hyacinth*. It revives the Spirits, expels Melancholy, and helps the Palpitation of the Heart. This Bone is ſuppoſed to be the Effect of a *Polypus*.

The Bones of this Creature, diſtilled in a Retort, yield a volatile Spirit, Salt, and Oil, but neither ſo fine, or ſo much in Quantity as ariſe from the Horn. The Fat or Suet is equal to the beſt Emollient. It lenifies and ſoftens Calloſities, Contractions, ſchirrous and cancerous Subſtances. The Marrow being purified, and prepared for keeping, has the ſame Virtues, and may be uſed the ſame Way. The Powder or Filing of the Penis, given in Wine, is diuretick, and good againſt the Colick and Dyſentery:

Some have affirmed it provokes to Venery. The Skin or Hide of the Haſt, Hart, Hind, Buck, or Doe, are of great Uſe, when dreſſed, for Garments, Gloves, Stockings, Bags, Shoes, Boots, and other Things; and the Stones that are ſometimes met with in the Stomach, or Gall-bladder, are ſomething like *Bezoar*, both in Figure and Virtue, but not altogether ſo powerful, and nothing near ſo much valued.

Lemery. *Cervus*, or the *Deer*, is a large four-footed Animal, that is very lively, ſprightly, and agile, living a long Time, and bearing a great Branch of Horns, that ſerve him for his Defence, and drop off in the Spring-time, inſtead of which new ones put forth. The Female Hind or Doe, is called *Cerva* in *Latin*; the young one *Hinnulus*, or the Fawn. The whole abounds with abundance of volatile Salt and Oil. The Velvet Horns are ſo ſoft, during the firſt Month, that they may eaſily be beat off; and being made into a Jelly, are uſed to haſten the Birth. The Raſpings of Harts-Horn are proper for Ptiſans, Jelly, *&c.* The Bone found in the Heart of a Stag, is ſometimes half as long as the little Finger, broad as the Nail, flat and thin, uſually triangular and white. Chuſe the leaſt rather than the biggeſt, becauſe the Bone in an Ox's Heart is often impoſed upon you for that. It is almoſt cartilaginous when taken out of the Animal, but hardens into a bony Subſtance afterwards. The Bone in the *Deer's* Heel is proper in the bloody Flux, being given in Powder to a Drachm. The Marrow is yellowiſh, inclining to white, and may be uſed externally in *Rheumatiſms Sciatica's*, *&c.* The Suet is likewiſe profitable for the ſame Ends, being emollient, ſtrengthening to the Nerves, and reſolutive.

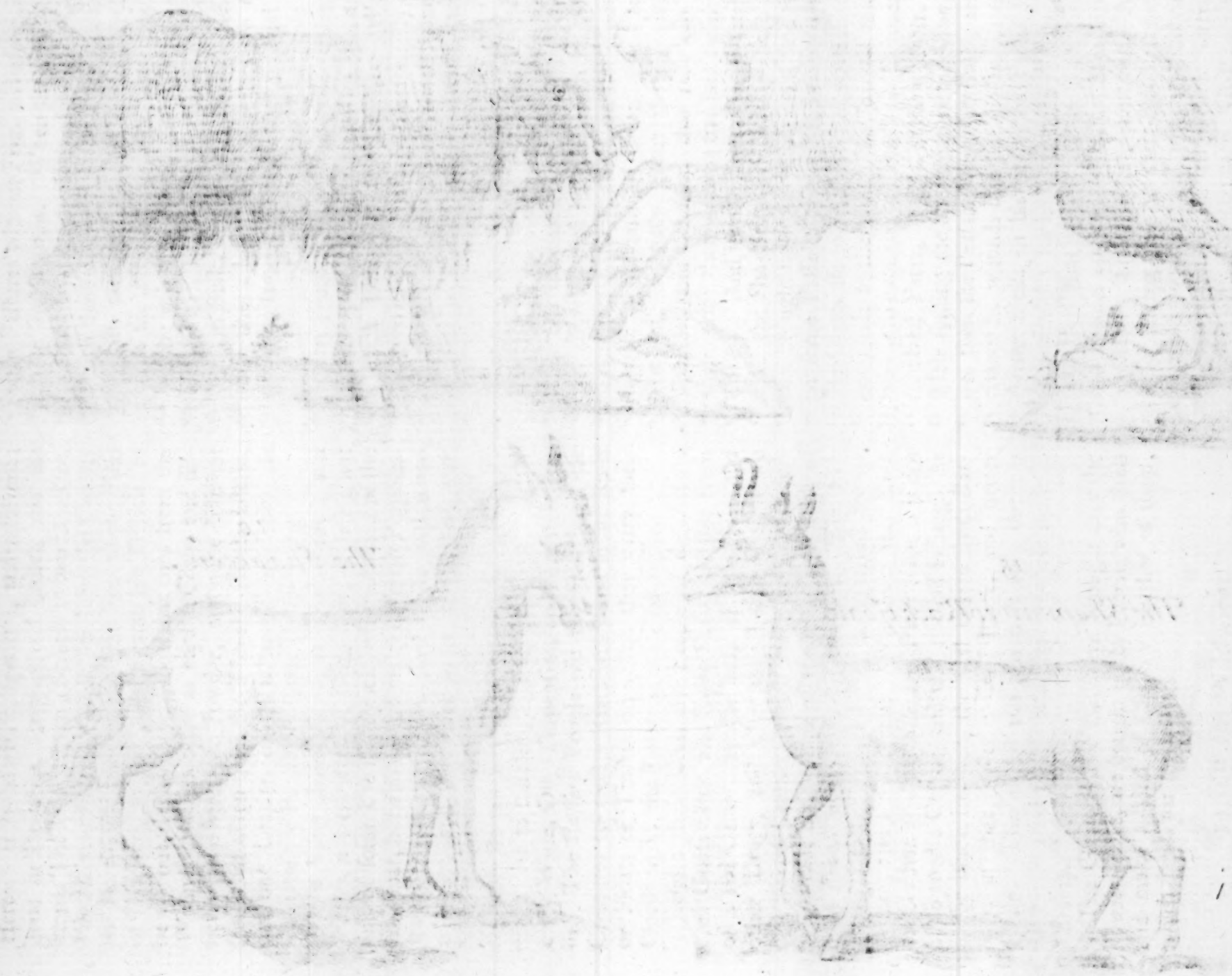
[The Virtues of Harts-Horn are too well known to need any Thing to be ſaid of them here. The *Os de Corde Cervi* is a Congeries of Arteries at the Baſis of the Stags Heart offified, as we ſometimes find the crural and other Arteries in human Bodies. Its Virtues ſeem to be altogether imaginary, and it is ſeldom to be met with genuine, if it were of any real Values; the ſame offified Subſtance from the Hearts of Oxen being often ſold in its Place, and oftener than that the *Oſſa Hyoidea* of various Animals.]

13. *Of the* Goat.

Pomet. THE *Goat* is an Animal univerſally known in *France*, *Italy*, *Cyprus*, *Candia*, and other Parts. The chief Commodity we ſell which comes from theſe Animals, is a Kind of Fat or Greaſe which is found ſticking to the Beards of the Animals, eſpecially ſuch of them as feed upon the Leaves of a certain Shrub, very common in the hot Countries, which the *Botaniſts* call *Ciſtus Ledum*. The Leaves are long and narrow, rough, very gluey, of a dark Green, and continue all the Year.

The Inhabitants of the Country gather this Greaſe with wooden Inſtruments, like Combs, and then make it up, being commonly full of Hair and other Filth, into a Maſs, or Cakes of different Size and Weight, which is what is called natural *Labdanum*, or *Ladanum*, or *Labdanum* in the Beard; but ſince the Iſlanders underſtood that there was a ſweet pleaſant Smell in this greaſy Matter, and that when it was well purified, it would be conſiderably valued, they have taken care to melt it, and ſtrain it through Cloths, as well to take out the Droſs, as to give it a more fragrant Smell. Having thus refined it, they wrap it up in fine thin Bladders, as we have it brought us, and to which we give the Name of *Liquid Labdanum*, or *Black Balſam*. This Fat, thus prepared, is much uſed in *England:* As for what is uſed in *France* it is ſcarce worth ſpeaking of; the Prefumers being the only People that deal in it, either becauſe of its Dearneſs, or becauſe it is but little known. The remaining Maſs, from which they have expreſſed the *Liquid Labdanum*, they make into Rolls, in the Shape of the Rolls of Wax-candle, and this they call *Twiſted Labdanum*.

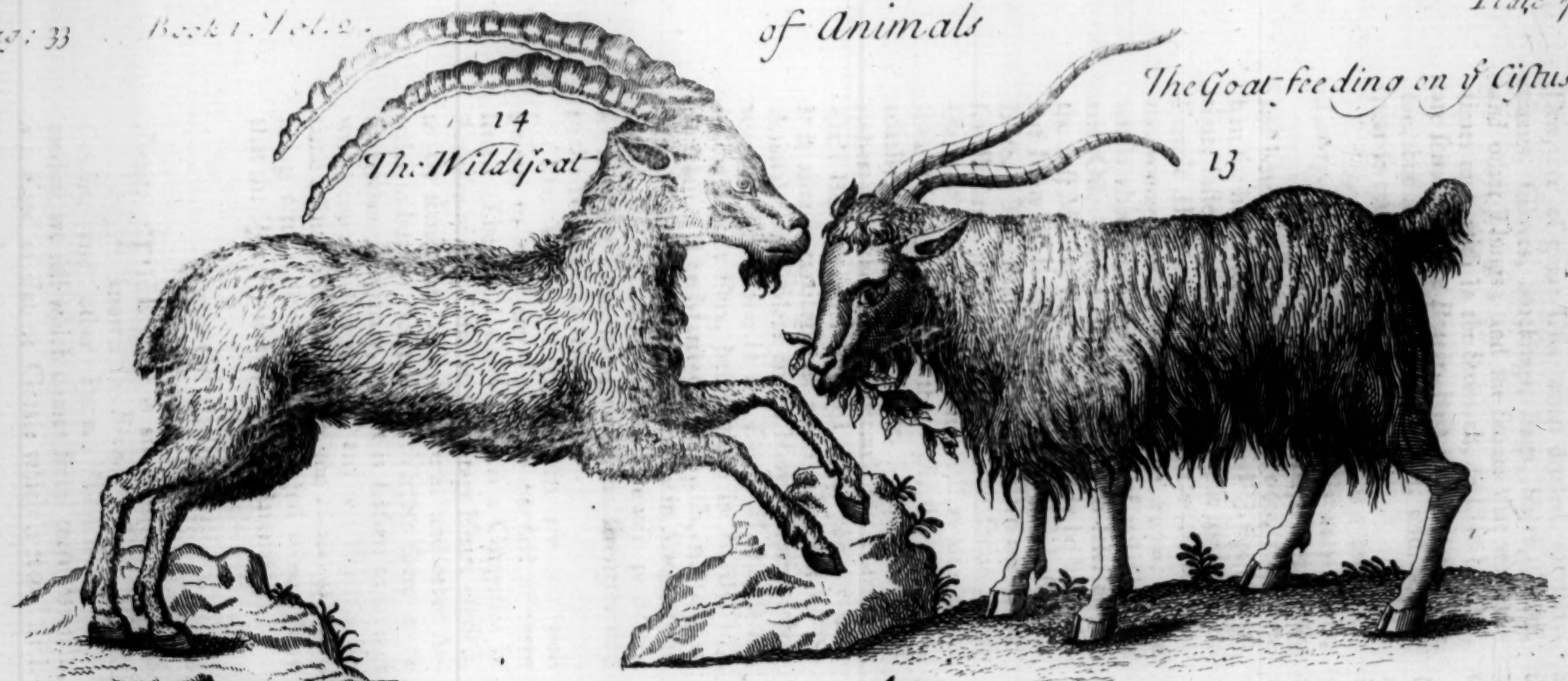
Chuſe the *bearded Labdanum*, the moſt fragrant and cleaneſt you can get. The liquid Kind ought to be of a thick Conſiſtence, of a fine Jet Black, ſweet and pleaſant, of a Smell, inclining to that of *Ambergreaſe*, which has given occaſion to ſome Merchants to ſell *Liquid Labdanum* for black *Ambergreaſe*. As to the twiſted Sort, it ought to be rejected, as being full of nothing but Dirt and Sand, as may be known by its Weight, and by the Quantity of ſhining Particles it is full of; notwithſtanding its being the worſt, it is however much uſed, as it is cheaper than the beſt, and eaſy to Powder. Beſides theſe different Sorts of *Labdanum*, we have prepared Goat's Blood, which is uſed in Medicine; and that it may be endowed with the excellent Qualities, which the Antients attributed to it, the Beaſt muſt be fed for ſome Time with aromatical Herbs, and ſuch as are proper to break the Stone, and muſt not be above four or five Years old. Having cut its Throat, you are to reſerve only the middle or ſecond Blood, rejecting what comes out firſt and laſt. This middle Blood you are to put into an earthen Veſſel, covered with a clean Cloth, to hinder Duſt or Dirt from falling into it, and then expoſe it to the Sun, or ſet it in the Shade to dry; and when



14
The Wild goat

The Goat feeding on ye Cistus.

13



15
The Shammy or Rock Goat



16
The Shagreen.



it is well dried, it ought to be put into a Glaſs Phial to keep it for Uſe. They uſually prepare the Blood of a Goat in the Month of *July*, when the Creature has had Time to feed on aromatick Herbs. It is ſudorifick, aperitive, and reſolvent; good in Pleuriſies, Stoppages of Urine, and the Stone. The Doſe is from a Scruple to two Drachms. *Van Helmont* affirms, that if you hang the *Goat* by the Horns, and bending the hind Feet to the Sides of his Head, in this Poſture cauſe his Teſticles to be cut out, and dry the Blood that runs from the Wound, it will become as hard as Glaſs, and difficult to be beat into Powder, and quite different from that taken from the Throat. He alſo aſſerts, that one Drachm of this taken will infallibly eaſe and cure the Pleuriſy without Blood-letting.

We bring from *Auvergne* near *Lyons*, and *Nevers*, a great deal of *Goats Suet*; it being not only of ſome Uſe in Phyſick, eſpecially that of the He-Goat, but alſo uſed to many different Purpoſes. It ought to be dry, of a clear white within and without; and take care it be not mixed with Mutton Suet, which is not eaſy to diſtinguiſh; therefore do not buy it of Merchants you cannot truſt. As to the Skin, it is of great Uſe; as, to carry Wine, Oil, Turpentine, and many Liquors in. The *Eaſtern* People uſe the Skins of theſe Creatures to croſs a River with, and in the Rafts or Floats of Timber on which they carry their Goods upon the Rivers in the *Eaſt-Indies*.

Beſides theſe Uſes, the People of the *Levant* dreſs Goats Skins, and Sheep Skins, and dye them of a red Colour, by the help of Stic-Lac, and other Drugs, and then they become what we call *Turkey* Leather, which we have a conſiderable Trade in, becauſe of the great Uſe made of it in *France* upon ſeveral Occaſions. The true *Turkey* Leather ſhould be of a beautiful Scarlet Colour, and a fine Grain. We make this Kind of Leather at *Marſeilles* and *Paris*; but it is not of ſo good a Colour, and will not laſt ſo long. As to the black Leather, the beſt comes from *Barbary*, in that it is of a finer Black, and better Grain. They make this alſo at *Roüen*; but it is neither ſo good nor ſo beautiful, as thoſe made in *Barbary*.

The Goats Skins, that have brought over the *Provence* Oils, are bought up by People, who dreſs and make a kind of Chamoy Leather of them, which ſerves for many Uſes.

14. *Of the* Wild Goat.

Pomet. THE wild *Goat* is an Animal little known in *France*, but very common in *Switzerland*; upon which Account I thought it would not be amiſs to relate what *Bellonius* has written of it, of which this is the Subſtance: "Wolves will not live in the Iſle of *Crete*; for "which Reaſon they leave all their Cattle in the "open Paſtures without Fear, and eſpecially their "Sheep and Lambs. When the Inhabitants of "the Country take the Kids of the wild *Goats*, of "which there are great Plenty, they bring them "up with the domeſtick *Goats*, and ſo they be-"come the Property of thoſe who tame them; "but the wild ones are theirs who can take or "kill them. They do not exceed the common "Goat in Bulk, but they have no leſs Fleſh upon "them than a large Deer, and they are covered "with the ſame Sort of Hair, ſhort and thick, "not like the Goats. The Males have a large "brown Beard, which no other ſtag-haired Crea-"ture has; they become grey with Age, and have "a black Liſt down their Backs. We have "them on our Mountains, and eſpecially on Pre-"cipices that are difficult of Acceſs; one would "wonder to ſee ſuch a little Animal carry ſuch "a Weight of Horns on his Head; for they are "ſometimes four Cubits long. There are two "Sorts of theſe *Goats*, as I have made appear "from the different Horns brought from *Cyprus* "and *Crete*, which I preſented to M. *Le Baily*. "There are ſome Peaſants on the Tops of the "higheſt Mountains of *Crete*, that are ſuch "Archers, eſpecially about the Mountains of "*Sphachia* and *Madara*, that they can wound "them with their Arrows five and twenty Paces "diſtant: And in order to come at them, they "take the She-Goats which they have tamed, "and brought up from young ones, and tie them "in ſome Paſſage of the Mountains where the "He-Goats uſe to go, and lie in wait on the con-"trary Side to the Wind, for fear the wild *Goat*, "who is ſo exquiſite of Smell as to ſcent you a "hundred Paces, ſhould diſcover them. The "Male finding the She-Goat on the Way, ſtops, "and then the Peaſant draws his Bow; and if by "chance he wounds him but ſlighty, though the "Arrow ſticks in his Body, he knows how to "cure himſelf; for he runs to the *Dittany*, which "is an Herb that grows upon the Rocks in *Crete*, "and brouſes upon it, by which Means he heals "himſelf." The *Switzers* hunt theſe Animals both for eating and for their Blood, which they prepare as aforeſaid, and uſe for diſſolving the Stone, foraſmuch as it has greater Virtue than the Blood of the common Goat; eſpecially when they feed on Saxifrage, or other Herbs of like Qualities. It is alſo eſteemed good in Pleuriſies; the Doſe is one Drachm. As to the Choice of it, take care that it is genuine, and that is ſufficient.

Caper vel Capra, Hircus vel Hirca, the He or She-Goat, are both the tame and the wild, one or other of which are Inhabitants of moſt Parts of the World; beſides which there are the *Rock Goat*, and the *Oryx*, or the *African wild Goat*. But I ſhall confine myſelf here to the wild and tame *Goat*, that feed upon barren Mountains, and waſte Places, and eat almoſt all Sorts of green Things whatſoever; ſo that they live and grow fat upon what any other living Creature would be ſtarved with. Their Increaſe is prodigious; for they ſometimes bring forth four, and ſometimes five at a Time; and the Ewe Kinds will have young ones before they are a Year old. The Profit of keeping *Goats*, which is only proper for barren and hilly Countries, beſides the Advantage of keeping the Family, ariſes from their Hides and Tallow; their Hides being the ſame Skins which in *Turkey* they make *Turkey* Leather of; and in *Spain*, *Spaniſh* Leather, and *Cordivant*, ſo called from *Corduba*. Theſe Skins are ſo valuable, that in ſome Countries they go in Tale for Money, as the Cocoa Nuts do in others. *Lemery.*

Of what Uſe the Leather is, daily Obſervation proves to us. Of the beſt tanned Leather, which is the *Turkey* and *Spaniſh*, are made Covers for Chairs, alſo Shoes and Boots for the Gentry and better Sort of People; of *Cordivant* and Kid Skins are made vaſt Numbers of Gloves of all Sorts; of the Vellum may be made Covers for Books, Drum-Heads, Deeds, Maps, Books, and other Writings. Theirs is the beſt Sort of Leather for univerſal Uſe, both for Strength, Subſtance, and Goodneſs, next to Neats Leather. The Horns and Hoofs of theſe Creatures abound with a great deal of volatile Salt, Oil, and Spirit, which are equally uſeful with the Preparations from *Hartshorn*. The Powder of the dried Teſticles is boaſted by ſome to be no ways inferior to *Caſtor*; and being given to a Drachm, cures Fits of the Mother to a Miracle. A volatile Oil drawn from the Brain of the *Goat*, and well rectified, is compared with *Goddard's Drops*, that made ſuch a Noiſe in the Reign of King *Charles* the Second, and may very likely anſwer as well, ſince that Medicine was no more than an exalted volatile Oil, as this is, and ſo may be ranked in the ſame Claſs.

[The Parts of the *Goat* ſaid to be uſeful in Medicine, are the Blood, Marrow, Suet, Milk, Dung, Urine, Bladder, Caul, Skin, and Gall, to which we may add the Stones generated in the Stomach; but ſcarce any of theſe are now ever preſcribed or kept in the Shops.

The *wild Goat* is the *Ibex*, *Aldrov. De Quad. Biſul.* 730. *Geſn. De Quad.* 303. *Hircus ferus*, *Bellon. Obſ. Ed. Cluſ.* 20. It is found on the *Alps* and other high Mountains. The Blood of this Creature is eſteemed an excellent Medicine in the Stone and Gravel.

Labdanum is a Gum Reſin that flows from the *Ciſtus Ladanifera Cretica vera. Park. Theat.* 666. *Ciſtus Ladanifera Cretica flore purpureo. Tour.* 19. *Ciſtus a qua Ladanum in Creta colligitur. Bellon. Obſ. Lib.* i. *Cap.* 7. In the Time of *Dioſcorides*, it was gathered from the Hair of the Goats which fed among the *Ciſtus's*; but at preſent it is gathered from the Shrubs themſelves, with a kind of Rakes, with many Thongs of raw Leather, which they gently draw over the Shrubs, and afterwards ſcrape the *Labdanum* from them with proper Inſtruments. It is very fragrant, and an admirable Balſamick and Aſtringent.]

15. *Of the* Shamoy, *or* Rock Goat.

UPON our Mountains, and eſpecially on the *Pyrenees*, we meet with a kind of wild *Goat*, called the *Shamoy*, or *Rock Goat*. There is a great Trade carried on with theſe Skins, by which they convey Oil, Wine, and other Liquids out of the mountainous Countries, and of which they make ſeveral other Uſes; for theſe *Shamoy* Skins, being dreſſed, are made into Gloves, Stockings, Drawers, Breeches, Waiſtcoats, Caps, *&c.* becauſe they may be waſhed as Linen is, and be dyed into what curious Colour you pleaſe, as Orange, Lemon, Buff, Black, Green, Red, Blue, or the like. *Pomet.*

This *Shamoy* is a very wild Animal, that is not to be met with, but on the very Heights of the Rocks and Mountains; for which Reaſon the *Latins* call him *Rupicapra*, or the *Rock Goat*, and he moſtly feeds upon the Herb we call *Leopard's Bane*. Sometimes we find in the Stomach of theſe Animals a Stone of different Colours and Sizes, which is called *German Bezoar*, becauſe the *Germans* eſteem this not inferior in Virtue to the *Oriental Bezoar*.

The *Shamoy* is of the Size of the common Goat: His Horns are ſmall, black, bent forwards, and very ſharp; the Tail not above three Inches long. They have large Eyes, and never ſtep but on the Tips of their Toes. They are coated like a Faun, and have a Streak running all along the Back.

Rupicapra, or the *Rock Goat*, is a wild Goat, no bigger than the common Kind, which frequents the Rocks and high Hills; as the *Alps*, *Pyrenees*, *&c.* The Horns of this Animal are oddly turned, for they riſe upright firſt, and then wind forward like a Hook. *Lemery.*

They

They feed upon the Plants that grow on the Sands and Tops of the Rocks; the chief of which is the *Doronicum Romanum*. The Male is called in *Latin*, *Dama*, being a very ſhy and timorous Creature. Both the He and She afford abundance of volatile Salt and Oil. The Liver is proper to ſtop Fluxes of the Belly; their Blood allays Vertigo's. The Fat is excellent for Ulcers of the Lungs and Phthiſicks, being taken in Milk. The Gall dries up, and waſtes away Films and Cataracts in the Eyes.

[The *Chamois* or *Gemp* is the *Dorcas ſive Rupicapra*, *Aldrov. De Quad. Biſul.* 725. *Rupicapra*, *Bellon. Obſ. Ed. Cluſ.* 57. *Jonſ. De Quad.* 52. The Blood, Liver, Gall, and Dung of this Animal have all their ſeveral Virtues aſcribed to them, but are none of them ever now uſed in Medicine. The *Ægragropila*, or *German Bezoar*, found in the Stomach of this Creature, I have already mentioned in the Chapter of *Bezoar*. It is of various Sizes, and ſometimes as big as a Walnut. It is ſaid to have very great Virtues, but is ſeldom ſeen among us.]

16. *Of the* Shagreen.

Pomet. CHAGRIN in the *French*, or what is called *Shagreen* in *Engliſh*, is the Skin of an Animal very common in *Turkey* and *Poland*, which the *Turks* and *Poles* make uſe of to carry their Baggage, as in other Parts they do Mules, Horſes, *&c.* When this Animal is dead, they take the hinder Part of his Skin, and hang it in the Air, after having ſtrewed it, when raw, with Muſtard-ſeed. They leave the Skins thus expoſed to the Weather ſeveral Days, then take them in, and tan them, and when they are dreſſed, export them. This Skin is very hard when dry, and ſoft when ſteeped in Water. I have been aſſured, that that which makes this Skin ſo hard, is becauſe this Animal ſits down and reſts upon his Buttocks. They bring two ſorts of *Shagreen* from *Turkey*; to wit, the grey, or aſh-coloured, which is the beſt, and the white Shagreen, which is dirty, and not nearly ſo good.

Chuſe your *Shagreen Skins* of right *Turkey*, or *Conſtantinople*, as being much better than thoſe of *Algiers* and *Tripoli*. There come ſome likewiſe from *Poland*, which you ought not to meddle with, becauſe they are too dry, and will not take in the Alum when they come to be dyed. Likewiſe chuſe the largeſt, faireſt, and eveneſt Skins, with a little round Grain well formed, with as few Places altogether ſmooth as poſſible; thoſe of a large and uneven Grain being leſs ſaleable, though no leſs fit for Uſe. The Uſe of this *Shagreen* is very univerſal for all Sorts of Pocket Utenſils, Watch-caſes, travelling Furniture, and the like. They may dye theſe Skins of what Colour they pleaſe; but the moſt common are black, green, and red. The moſt beautiful and deareſt is the red Colour, becauſe of the Vermilion and Carmine with which it is dyed. You may know the true *Shagreen* from the *Spaniſh* Leather made into *Shagreen*, becauſe the laſt is neither ſo rough nor ſo hard; but will wear ſmooth, which the true will not.

[The *Chagrin*, or *Shagreen* Leather, is the Skin of the Buttocks of the *Onager*. *Raii Synop. Anim.* 63. *Aldrov.* 332. *Jonſ. De Quad.* 14. *Onager*, *ſive Aſinus ſylveſtris*. *Geſn. De Quad.* 21. It differs but very little from the common Aſs. No Part of it has been ever uſed in Medicine.]

Of Bears Greaſe.

Beſides the ſeveral Parts of Quadrupeds already deſcribed, we ſell *Bears* Greaſe and Suet, which are brought from the Mountains of *Switzerland*, *Savoy*, and *Canada*. The Greaſe, if it be good, ought to be freſh, or new melted, greyiſh, gluey, and of a ſtrong ill Smell, of a middle Conſiſtence, that is to ſay, betwixt hard and ſoft; and meddle not with that which is white and hard, being mixed with Suet. This Fat, or Greaſe, is a ſovereign Remedy for curing cold rheumatick Humours. It is alſo much valued for eaſing Pains of the Gout, by rubbing the afflicted Part, and to make the Hair grow; it being eſteemed admirable againſt Baldneſs, eſpecially when incorporated with Bees in Powder and Nut-Oil. As for the Bears Suet, there is but very little of it brought into *France*, it being little uſed, and that only by thoſe who will not come up to the Price of the Greaſe. The Bears Gall is good in Epilepſies and Aſthmas, taken from two to eight Drops. It is alſo uſed externally to cleanſe old Ulcers.

We ſell likewiſe the Greaſe of the *Badger*, as very ſovereign in nephritick Caſes, and Sciatica Pains. And we have alſo Pencils made of the Badger's Hair for the Painter's Uſe. This Creature is about as big as a Fox, but ſhorter and thicker; the Skin is hard, rough, and has rugged harſh Hair upon it, of an intermingled griſled Colour, ſometimes whiter, ſometimes blacker; the Back almoſt black, the Belly almoſt white; the Teeth are very ſharp, the Tail ſhort and hairy, of different Colours; it is long-ſnouted, has ſhort Legs before, yet ſhorter behind, little Ears, ſmall Eyes, ſharp Claws, and is a Beaſt commonly very fat, and of a ſtrong ſtinking Smell; the whole

Length of him, from the Snout to the Tip of the Tail, is not above two Feet and a half.

The Liver and Bowels of the *Wolf* dried, are recommended for the Cure of all Diſeaſes ariſing from the Liver and Bowels, particularly the Cholick; and the Heart of the ſame Creature is eſteemed good in Epilepſies. We alſo ſell the Greaſe and dried Lungs of the *Fox*. The laſt eſteemed excellent againſt Coughs, Aſthma's, Phthiſicks, Wheeſings, Hoarſeneſs, Shortneſs of Breathing, and all other Diſeaſes of the Lungs. The Greaſe is admirable for the Ear-ach, and to rub the Limbs of ſuch Perſons as are ſubject to Convulſions, Palſies, Tremblings, and Weakneſs in any Part.

Of the Muſk Rat.

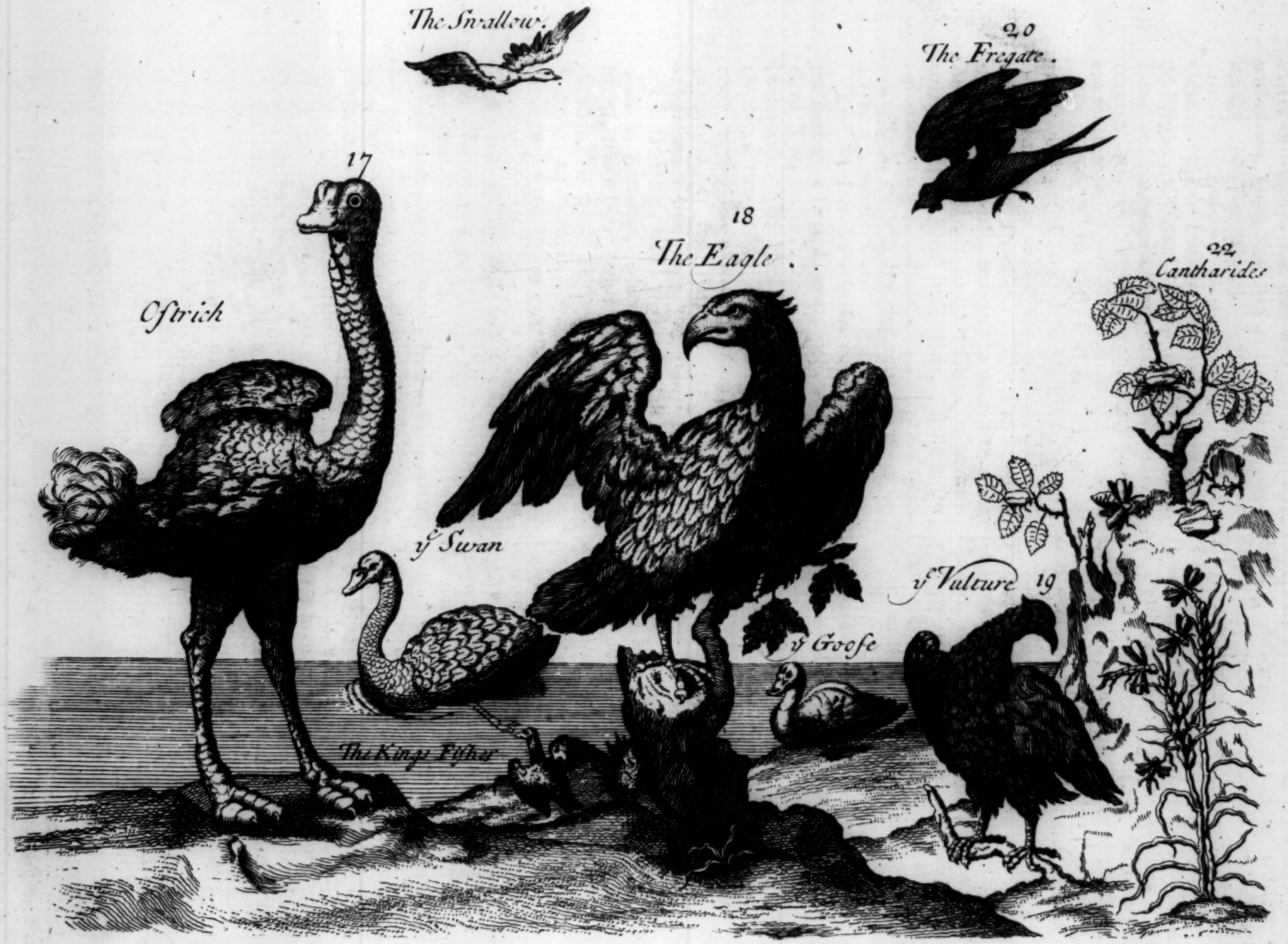
There are alſo the Teſticles of a little Creature brought us, called, in the *American Iſlands*, *Piloris*, or *Muſk Rat*, becauſe of its Reſemblance to our common Rats, except that the *Weſt-Indian* are much larger. They ſell theſe for *Muſk*, to People that do not underſtand them; but it is an eaſy Matter to find it out, ſince theſe are no longer or thicker than a Child's little Finger. The *Muſk Rats*, according to Father *Du Tertre*, have the ſame Shape with ours, but are ſo much bigger, that one will out-weigh four of ours: The Hair upon the Belly is white, and that on the Back black; they ſmell ſo ſtrong of Muſk, that they perfume all the Air about them as they go. The Inhabitants of *Martinico* eat them; but they are forced, after they have ſkinned them, to leave them one Night in the Air, and then throw away the firſt Water they are boiled in, to take off the too ſtrong Scent of the Muſk. Theſe Rats are natural to the Iſland, and they had none of the common Kind, 'till of late that they were brought thither by the Ships that trade there.

[The *Bears* Greaſe is now ſeldom uſed, or found genuine among our Druggiſts, the others ſcarce at all; and the Teſticles of the *Muſk Rat*, the *Piloris*, *Lem. Diction. des Droug.* 424. are of no other Uſe than to adulterate the true Muſk with.]

17. *Of the* Oſtrich.

Pomet. THE *Oſtrich* is a Bird that has ſhort Wings, and is much valued for its Feathers; which ſerve as Ornaments for Hats, Caps, Beds, and Canopies of State. The *Oſtriches* are taken in *Africa*, and are very common in *Peru*, where they march in Flocks like Cattle: The Natives eat their Fleſh, and their Eggs are good, though hard of Digeſtion: This is the largeſt of all Birds, being ſeven Feet high, and ſometimes more. His Head is ſmall, depreſſed, or flat-crowned, and almoſt like a Gooſe's; the Bill is compreſſed and ſmall, of a triangular Figure, Horn coloured, with a black Tip; it has great Eyes, with a Hazel-coloured *Iris*; the Head and Neck, almoſt as far as the Breaſt, are bare of Feathers, as alſo the Thighs; the Head and Neck are covered with a certain Down, or thin ſet Hairs: The Sides under the Wings and Thighs are abſolutely bare; the Wings are ſmall, and altogether uſeleſs for Flying, deſigned only to aſſiſt the Bird in Running. The Feathers of the Back, in the Cock, are Coal black; in the Hen only duſky, and ſo ſoft that they reſemble a kind of Wool; the Wing-Feathers beneath, are of the ſame Colour with thoſe in the Back; but above, in their upper Part, they are purely white: The Tail is thick, buſhy, and round, not as in other Birds, ſpread out in Breadth; the Feathers in the Cock being whitiſh, in the Hen duſkiſh. Its Neck and Legs are very long; it wants the back Toes, and has but two others; the one Toe is five Inches and a half, and the other eight Inches long, covered with great disjointed annulary Scales. It lays very large Eggs, of four or five Inches Diameter, one of which has Meat enough in it to ſerve ſeven or eight People, contained in a hard ſtrong Shell, which they cover in the Sands, and forſake, never taking any more Care of them, but leave them to be hatched by the Heat of the Sun.

They have diſſected ſeveral *Oſtriches* in the Academy of Sciences; the largeſt whereof was ſeven Feet and an half high from the Ground to the Top of his Head. The Eye is oval like a Man's, having large Eye-brows; and the upper Eye-lid is moveable, contrary to the Generality of Birds, with an Eye-lid within, as a great many Brutes have; the Bill is ſhort and pointed; the Tongue is ſmall and adhering, as that of Fiſhes; the Thighs large, fleſhy, and without Feathers, covered with a white Skin, a little reddiſh: The Legs are covered with great Scales; the Feet cleft, having only two Toes, with large Claws. The *Oſtrich* carries the Quill exactly in the Middle of the Feather, upon which Account the *Ægyptians* repreſented *Juſtice* by it. When they came to examine the Inſide of this Creature, they met with five Diaphragms or Partitions, which divide the Trunk into five Parts; four of which were placed ſtrait up and down; and a fifth ſituated acroſs, or thwart the Ventricles, which were found full of Herbs, Hay, Barley, Beans, Bones, and Stones, of which there were ſome of the Bigneſs


The Swallow.
20
The Fregate.
17
Ostrich
18
The Eagle.
22
Cantharides
y^e Swan
y^e Vulture
19
y^e Goose
The Kings Fisher



neſs of a Hen's Egg. They found in one ſeventy Pieces of Money; the moſt Part of which was waſted and gone, and that apparently by their mutual Attrition one againſt the other, rather than by Corroſion. It is obſervable, that the *Oſtriches* ſwallow Iron for the ſame End that Birds do Pebbles and Gravel, to help them to grind their Food, and not nouriſh them, or to digeſt it, as the Antients believed, for they periſh if they ſwallow too much of it.

The Fleſh of the *Oſtrich* is fat, and ſaid to cauſe an Appetite, and reſtore in Conſumptions. The Ventricle, or Skin of the Stomach, ſtrengthens and aſſiſts Digeſtion. The Fat is hotter than Gooſe Greaſe, and may be uſed with great Advantage to diſſolve hard Swellings, relax contracted Nerves, and eaſe Pain. Beſides the *African Oſtrich*, already deſcribed, there are three other Sorts, to wit, the *American*, the *Emeu* or *Caſſowary*, and the *Dode*.

The *American Oſtriches* are ſomewhat leſs than the former. Their Legs are long, and they have three Toes on each Foot, one of which ſtands backwards. The Head is like that of a Gooſe, the Neck twenty-four Inches long, which they carry bended like a Swan or Stork; the Bill is compreſſed, or flat, but not very broad, two Inches and a half long; the Wings ſmall, and not fit for flying, which they only aſſiſt themſelves with in Running, which they do with that Speed, that a Grey-hound can ſcarcely overtake them. The whole Body is covered with grey Feathers, which are longer and more beautiful on the Back. The Tail is like that of the former, but ſtretched long-ways. It feeds on Fruit and Fleſh, but will ſwallow any thing you offer it. The Fleſh is reckoned among the *Spaniards* as good Food.

The *Emeu*, or *Caſſowary Oſtrich*, has a horny Crown on the Top of its Head, near three Inches high, of a duſky yellow Colour, which is reported to fall off at moulting Time, and to grow again with the new Feathers. The Head and Neck are bare, or only covered with a hairy Down; the Skin being of a purpliſh blue Colour. In the fore Part of the Neck hang down two membranous Wattles, or Lobes of Fleſh, two Inches long, of a Vermilion Red; as is alſo the lower Part of the back Side of the Neck: Its Bill is of a moderate Thickneſs, and ſtraight, and four or five Inches in Length; the Neck is about thirteen Inches long; the Length of its Body, from Breaſt to Rump, three Feet, the Breadth two Feet over; the Thighs, with the Legs to the Feet, are ſeventeen Inches long; the Legs are thick and ſtrong, and almoſt five Inches about, covered as it were with broad Scales. It has thick, hard Feet, divided into three thick Toes, all ſtanding forwards, and wanting a back Toe, having very great Claws, almoſt two Inches long. It has ſome Rudiments of Wings, conſiſting only of five naked Shafts of Feathers, ſomewhat like *Porcupines Quills*, which commonly lie hid under the Feathers, covering the Sides; but it has no Tail. The Feathers covering the whole Body are all double; two coming out of the ſame Pipe or Stem, the upper ſomewhat the thicker, or groſſer, the lower the finer and more delicate. It is commonly ſaid to want a Tongue, becauſe the Tongue cleaves to the Mouth as in Fiſhes. It feeds upon Fruits, Fleſh, Bread, Hen's Eggs, Oranges, and almoſt any Thing that is offered it. It's Eggs are great and fair; one being meaſured length-ways, was fifteen Inches, and croſs-ways twelve Inches, or more; of a greeniſh aſh Colour, thick ſet with ſmall Protuberances of a deep Green.

The *Dode*, called *Gallus Gallinaceus*, is ſaid to be of a middle Size, between an *Oſtrich* and a *Turkey*, agreeing much with the *African Oſtrich*, if you conſider it's Rump, Wings, and Feathers; but in regard of the Shortneſs of its Legs, it looks like a Pigmy among them. It has a great Head, covered with a Membrane reſembling a Hood, great black Eyes, prominent fat Neck, a Bill long and ſtrong, not flat and broad, but thick and of a bluiſh White, ſharp pointed and crooked. Its Body is fat and round, covered with ſoft grey Feathers, much like an *Oſtrich's*; on each Side, inſtead of hard Wing-Feathers, or Quills, it has ſmall ſoft-feathered Wings, of a yellowiſh aſh Colour; and for a Tail, it has five ſmall curled Feathers of the ſame Colour. It has yellow Legs, being about four Inches in Compaſs, and ſomething more than four Inches in Length, covered with thick Scales. It has three fore Toes, and one back Toe, near an Inch and an half long, and its Claw above an Inch in Length. It is a ſlow-paced, ſtupid Bird, and eaſily taken. The Fleſh, eſpecially of the Breaſt, is fat, eſculent, and has ſo much of it, that three or four of them will ſometimes be enough for a hundred Men; but it is commonly ſalted, and ſtored up for Sea Proviſions. It ſwallows Stones, and ſuch like hard Subſtances, which ſhews it to be of the *Oſtrich* Kind.

[The *Oſtrich*, whoſe Fat is eſteemed ſo excellent in nervous Caſs, is the common Kind, the *Struthio. Charl. Ex.* 79. *Struthio camelus. Raii Ornith.* 144. *Geſn. De Avib.* 670. The Fat, by the Relation of thoſe who have been where it was to be had, and tried it, is one of the greateſt of Medicines uſed as an Ointment in Contractions of the Nerves,

but

but whether this be true or not, is of little Conſequence to us who cannot expect often to meet with it.]

18. *Of the* Eagle.

Pomet. THE *Eagle* is a large Bird of Prey, and the fierceſt and ſtrongeſt of that Kind, being ſcarce diſtinguiſhable from the *Hawk*, but only in Bigneſs, or from the *Vulture*, but by its long, black, and crooked Bill; beſides which its Legs are yellow, and covered with Scales. This Bird is very well known in *Europe*, as well as other Parts of the World. There are ſeveral different Species however of it; as the Golden *Eagle*, the Black *Eagle*, the White tailed *Eagle*, the *Braſilian Eagle*, the Sea *Eagle*, and the *Vulterine*.

The Fleſh of all the Kinds is hard, fibrous, and not fit for Meat or Phyſick. The Brain is ſaid to cure the Epilepſy, the Teſticles to procure Luſt, and the Gall is the ſtrongeſt of all Galls, and helps all the Diſeaſes of the Eyes whatſoever; as Clouds, Miſts, Films, Pearls, Blood-ſhot, Ulcers, *&c.* The Fume of the Dung is ſaid to bring forth the *Fœtus*, and outwardly applied, ripens Tumors and Apoſthumes. The *Eagle* is a very ſalacious Bird, yet lives to a very great Age. But of all that belongs to this Bird, there is nothing ſold in the Shops, but a kind of Stone that is found at the Entrance of the Holes where the *Eagles* build their Neſts, ſuppoſed laid there to preſerve their Young from Lightnings, and other Injuries of the Weather. This Stone is brought us by the Pilgrims of *St. James* in *Galicia*. The *Eagle* Stones moſt eſteemed, are thoſe which are flat, blackiſh, and that rattle well; that is to ſay, which make a Noiſe when ſhaked at your Ear, which proceeds from a little Stone contained within. Great Virtues are aſſigned to this Stone, eſpecially to procure eaſy and ſafe Labour, and to prevent Miſcarriages. Some write, that the *Eagle* hunts for this Stone to the very *Indies*, in order to hatch, or bring forth its young ones.

[The two Kinds of the *Eagle*, which have Places in the Catalogues of Birds uſed in Medicine, are the *Aquila fulva, ſive aurea. Will. Orn.* 58. *Aquila Germana. Geſn. De Avibus*, 149. *Aquila regalis, Schw. A.* 214. The Golden *Eagle*, and the *Halieætus. Jonſ. De Av.* 93. *Halieætus ſive Aquila Marina. Will. Orn.* 29. *Halieætus ſive Oſſifraga. Raii Syn. An.* 6. The *Oſprey*. The Gall of the firſt is ſaid to be good in Deafneſs; and the Marrow of the Thighs of the other to make Baits for Fiſh: But neither are ever uſed now.

The *Eagle* Stone is the *Ætites ſive Aquilinus Lapis, Worm.* 77. *Charl. Foſſil.* 31. Its Virtues ſeem altogether imaginary. There are ſeveral Kinds of it: The *Ochreoferreus Ætites*, the Baſtard *Eagle* Stone, the *Geodes. Woodw. Att.* 2. 9. *Boet.* 381. and the *Terra Sicula, Bezoardicum minerale. Mont.* 14. which are ferrugineous Bodies containing Earth, *&c.* The true *Ætites* is a Pebble with a looſe Nucleus.]

19. *Of the* Vulture.

Pomet. THE *Vulture* is a Bird of Prey that is much like an Eagle, and has ſo quick a Scent, that it will ſmell a dead Carcaſe many Miles. Many are of Opinion that he differs not in Kind from the Eagle, but only in ſome other Characteriſticks, as that the Head and Neck of the *Vulture* are for the moſt part bare of Feathers, and are only covered with a ſhort white Down; that a little under their Throats they have about a Hand's Breadth covered rather with Hairs, like thoſe of a Calf, than Feathers; that the Craw hangs down like a Bag before the Stomach or Breaſt; that the Bill being ſtraight for two Inches, does then grow crooked; that among all rapacious Birds, none fly together in Flocks but the *Vultures*; and laſtly, that the Inſides of the Wings are covered with a ſoft Fleece of Down, which is proper only to the *Vulture*.

There are ſeveral Kinds of *Vultures* deſcribed by Authors, as the Aſh-coloured, the Black, the Cheſnut, the Hare *Vulture*, the Golden, the White, the *Braſilian*, and the Vulturine Eagle. The two firſt differ in nothing but their Colour. The Cheſnut-coloured is leſs than an Eagle, having the whole Plumage of its Body of the Cheſnut Colour; the Feathers of the Crown are very ſhort if compared to Eagles, which is the Reaſon ſome have thought them bald. The *Hare Vulture* is ſo called from its preying upon Hares; is inferior in Magnitude, and has not a Breaſt ſo refulgent as the Golden *Vulture*, which has many Things in common with the Golden *Eagle*, but is every Way, or in all its Parts greater. The *Braſilian Eagle* is a rapacious Bird, of the Bigneſs of a Kite, having a long Tail, and Wings longer than it. The whole Plumage of the Body is black, with a little Tawny here and there mixed. It is headed almoſt like a Turkey, having a wrinkled Skin. Its Bill is long, hooked at the End, and ſharp; in the Middle whereof is one large Hole for the Noſtrils, tranſverſely ſituate; its Eyes are almoſt of a Ruby Colour, with a round black Pupil. Its Fleſh ſtinks like Carrion, for it feeds chiefly upon dead Carcaſſes; it is ill-looked, always lean, and never ſatisfied.

The *Vulturine Eagle*, though called ſo by the Naturaliſts, has nothing of the Eagle in him; its Shape is unuſual; the Bill is ſtraight almoſt to the Middle,

Middle, and towards the Point bent into a remarkable Hook, after the Manner of *Vultures*, white towards the Head, the reſt of it black, the lower Chap wholly white. The *Iris* of the Eye is not ſo fiery as in Eagles, but whitiſh, and the *Pupilla* black; the whole Head whitiſh or grey; the Neck, half way from the Head, almoſt bald, ſet with a few white Feathers, and ſome ſmall ones, like rough curled Hairs, higher than the reſt of the Plumage, as if they were fine long Briſtles; on the Back there is as it were a kind of Hood, reaching to the Middle thereof, and ending in a ſharp Peak, reſembling a Triangle. The Colour of the whole Plumage is of a dark Cheſnut, inclining to black. The Fat is the only Thing belonging to the Vulture Kind that is ſold in the Shops: It is uſed to anoint with in Palſies and other nervous Caſes.

[The *Vulture*, that has a Place in the Catalogues of medicinal Birds, is the *Vultur niger*. *Aldr. Ornith.* 1. 271. *Vultur nigricans*. *Char. Ex.* 71. The Fleſh, Fat, Gall, Brain, and Dung of this Bird are recommended as having their ſeveral Virtues, but none of them are ever ſeen in the Shops, or preſcribed in the preſent Practice.]

20. *Of the* Frigat.

Pomet. THE *Frigat* is a Bird which the *Indians* call ſo becauſe of the Swiftneſs of its Flight. The Body of this Bird is no bigger than a Pullet's, but its Stomach is very fleſhy. All the Feathers of the Males are as black as Ravens. The Neck is pretty long, the Head ſmall, with two great black Eyes, and the Sight more piercing than the Eagle's. The Bill is pretty thick, and altogether black, about ſix or ſeven Inches long, and ſtraight to the End, where the upper Beak is crooked like a Hook: The Claws are very ſhort, being divided into two, as the *Vulture's*, but are entirely black. The Wings are ſo prodigiouſly great, that it is ſeven or eight Feet from the Extremity of one Wing to the other, and that not without Reaſon, ſince his Wings are ſometimes employed to carry him above three hundred Leagues from Land. It is with a great deal of Trouble that this Bird can raiſe himſelf, but when he has once taken his Flight, he keeps his Wings extended almoſt without any Motion or Fatigue. If the Weight of the Rain, or the Impetuoſity of the Winds force him, he mounts above the Clouds, and ſoars beyond Sight into the middle Region of the Air; and when he is at the higheſt, clearly diſtinguiſhes where the *Dorado* gives chace to the Flying-Fiſh, and throws himſelf down like Lightning; not ſo as to ſtrike upon the Water, for then it would be difficult for him to riſe again; but when he comes within twelve or fourteen Paces, he makes a large Turn, and lowers himſelf as it were inſenſibly, 'till he comes to ſkim the Waters where the Chace is given; in paſſing he takes the little Fiſh in its Flight along the Water, either with his Bill or his Talons, and ſometimes both together.

The Male carries a great red Comb, like that of the Cock, not upon his Head, but under the Throat; and this Comb does not appear but in the old ones. The Females have none, but they have Feathers that are whiter, eſpecially under the Belly. As the *Herons* in *Europe* have Heronries, which are certain remote Corners of Woods, to which they retire, as Places of Refuge, where they meet, rooſt, preſerve themſelves, and multiply; ſo theſe Birds, for a long Time, made a little Iſland, near *Guaduloupa*, their Habitation; where all of that Species thereabout come to rooſt at Nights, and build their Neſts in the proper Seaſon. This little Iſland was called the *Iſle of Frigats*, and bears the Name to this Day, though the Birds have left the Place; for in the Years 1643 and 1644, ſeveral People chaſed them ſo ſeverely, that they were forced to abandon the Iſle.

The Reverend Father *Du Tertre*, Apoſtolical Miſſionary in the *Antilles*, moved by the large Commendations given to the Oil drawn from theſe Creatures, by Means of two or three People, took more than an Hundred of them in leſs than two Hours Time. They ſurprized the large ones upon the Branches, or in their Neſts; and as they riſe with a great deal of Trouble to take Wing, it was an eaſy Matter to beat them down with long Sticks. There was not one of thoſe, ſays this Author, that flew away, but at taking Wing vomited two or three Fiſh, as big as Herrings, half waſted: He believes they diſcharged themſelves in order to fly away with the more Eaſe. The Oil or Fat of theſe Creatures is a ſovereign Remedy for *Sciatica* Pains, and for all others proceeding from a cold Cauſe. It is held in great Eſteem throughout all the *Indies*, as a precious Medicine.

[The Oil ſo much commended here, is obtained from a large Bird, called the *Man of War Bird*, common in many of the *American* Iſlands, but has never been of fame enough among us to get into uſe, or make it worth any one's while to import it.]

21. *Of Birds Neſts.*

Pomet. THE Birds Neſts which the People of *Siam* have brought into *France* for many

many Years, are nothing but an Excrement or Foam of the Mouth, of certain Birds called *King's Fiſhers*, which are very common in *France*, eſpecially in *Normandy*. The *King Fiſhers* of *France* frequent the Sea Coaſt, Rivers, and watry Places; they are of the Size of a Swallow, or of a Quail; their Feathers and their Bills are of various Colours, as green, red, and blue; and they have a great many ſeveral Names; as the *Alcyon* Martin, the Martin-Fiſher, the Martlet, the Bird of St. *Martin*, *&c.* Theſe Animals uſually build their Neſts among Reeds, or upon Rocks. The *Indian* King-Fiſhers, eſpecially thoſe about the Kingdom of *Camba*, when they are going to breed, throw out of their Bills a white Froth, with which they build a Neſt, of the Bigneſs and Shape of a Cup, where they lay their Eggs, and hatch their young ones: Theſe Neſts are of a white Colour, tending to yellow, and of a hard dry Conſiſtence; the Taſte being inſipid, and almoſt like that of *Vermicelli*.

The *Chineſe* are ſuch Lovers of theſe Birds Neſts, that it is almoſt incredible what Quantities are ſent to *Pequin*, the Capital of *China*. They are uſually valued at fifty *Tabers* the hundred, which is about ſix hundred Livres, or fifty Pounds of our Money. They aſſign mighty Virtues to this Neſt; as that it nouriſhes extremely, being boiled in Water with a Fowl and Ginger; they reckon it very good for curing Pains at the Stomach, and for reſtoring thoſe that are in a languiſhing Condition. Theſe Neſts were formerly little known; and it was believed that they were made of the Froth of the Sea; but ſince the People of *Siam* have brought them us, they are become very common. There are, beſides, other Parts belonging to Birds, which we ſell, and have a conſiderable Trade in; as Quills, Pencils, and Down from the Swans, Geeſe, and other Fowl, which are brought us from *Gaſcoigny*, *Normandy*, *&c.* as alſo the Swallow Stones, which are little Stones uſed like thoſe taken out of Cray-Fiſh; and to take out any Filth or Dirt that falls into the Eyes.

[The *Chineſe* Birds Neſts are the Neſts of the *Indian* Swallow, the *Hirundo Maritima*. *Act. Phil. Lond.* N° 285. *Hirundo Sinenſis*, *Nido Edulo Bontii*. *Will. Orn.* 15. *Hirundo Chinenſis*. *Bont.* 66. The Neſts are of the Bigneſs of a Gooſe's Egg, roundiſh and pellucid, of a Subſtance reſembling Gum Tragacanth or Icthyocolla. They are found on the Rocks upon the Coaſts of *China* and *Japan*. When mixed in Broth or warm Milk, they ſwell and make a thick Soup, much eſteemed in the *Eaſt*, as a Reſtorative, and Provocative to Venery, as well as an excellent Food.

The Swallow Stones are the *Lapis Chelidonius*. *Worm. Muſ.* 72. *Bufonites minor Caſtanei ſubfuſci coloris*. *Luid. Lith. p.* 70. Teeth of the *Lupus Piſcis*, *Woodw. Att.* 2. 27. They are about the Bigneſs of a ſmall Pea, and ſaid to be found in the Stomachs of young Swallows, but are really dug out of the Earth in the Iſle of *Malta*, and are the Teeth of a Fiſh buried there.

They are hung about the Arms or Necks of Children, as a Remedy for the Epilepſy.]

22. *Of* Cantharides.

THE *Cantharides* are Flies which the Peaſants about *Paris* bring us, and which they find in great Plenty upon *Aſh-Trees*, *Roſe-Buſhes*, and on the Blades of Corn. The Wings of theſe Flies are of a fine ſhining Green to look upon, becauſe of their blue Colour mixed with a gold yellow; but the whole is venomous, and of a fœtid Smell. They have a large Sort in *Italy*, but they are of no Uſe. Chuſe ſuch as are new, dry, and whole, without being crumbled to Powder. *Pomet.*

The Uſe of *Cantharides*, at this Day, is chiefly external; but there are ſome Countries where they are frequently given inwardly, by ſuch as underſtand how to prevent their dangerous Effects. They are of very great Service to the Apothecary, not only for the Bliſtering Plaiſter, that is always ready compounded by them, but to uſe freſh upon all Occaſions where they are required. They kill the *Cantharides* with the hot Fumes of the ſharpeſt Vinegar, encloſing them in an earthen Veſſel, having its Mouth covered with a fine thin Cloth; afterwards they dry them, and putting them up in wooden Boxes, they keep them for the Space of two or three Years. Theſe *Cantharides*, tho' rarely preſcribed inwardly, are very efficacious in the Hands of a wiſe Phyſician who knows how to correct them, and make them ſpecifical, in a *Gonorrhæa*, Suppreſſion of Urine, Ulcers of the Bladder, Stone, Gravel, *&c.* They are moſt frequently adminiſtered in a Tincture mixed with Spirit of Wine, Camphire, *&c.* But to promote the Expulſion of Urine, nothing can be more ſafe than the anointing the *Perinæum*, or lower Part of the Belly, and the Region of the Navel, with the Oil, wherein *Cantharides* have been boiled.

Some at this Time uſe all the Parts of the *Cantharides* promiſcuouſly; but the Head, Wings, and Legs, are to be caſt away. If a Bliſtering Plaiſter made of them be applied to a tender delicate Body, or upon fine ſkined Women, it will cauſe a Strangury, or Scalding, and Heat of Urine, which is eaſily remedied by drinking of Milk, Barley-Water, or Emulſions of Almonds, or the cold Seeds. The volatile Salt of the *Cantharides*

is


A Dead Ox.
A Dead Lion.

is one of the moſt powerful Diureticks that is to be met with in the World; ſo that ſome Authors affirm it is able to break or diſſolve the Stone. It is ſo pungent and biting, that it is apt to raiſe little Bliſters upon the Tongue, when taſted; ſo that it is not to be taken alone, but in ſome ſmooth oily Subſtance, or other proper Vehicle: Doſe from one Grain to three. The Tincture is more gentle, and leſs hazardous than the *Cantharides* themſelves.

[*Spaniſh* Flies, as they are commonly called, are the *Cantharides*, *Mouff. Inſ.* 144. *Cantharides Dioſcoridis. Charlt. Ex.* 47. *Cantharides vulgares officinarum. Raii Inſ.* 101. Their principal Uſe is in bliſtering Plaiſters, but there are ſome who give them inwardly with great Succeſs; one of the firſt of theſe was Dr. *Groenveldt*, a *Dutch* Phyſician, who practiſed in *London*, and after a ſucceſsful Uſe of them for many Years, was benevolent enough to communicate what he had learnt of them to the World, in a Book entitled *De tuto Cantharidum Uſu interno*, in which he gave the Method by which he always prevented their ill Effects. The Thanks he received for this were, the being thrown into a Priſon. However, there have not been wanting, both at that Time and ever ſince, Perſons of Judgment, who have had Courage enough to try and reap the Advantage of the Diſcoveries he paid ſo ſeverely for communicating.]

23. *Of* Bees.

Pomet. THE *Bees*, or *Honey-Flies*, are little Inſects, the Nature and Conduct of which is no leſs wonderful than their Labour is neceſſary and uſeful, ſince they furniſh us with Honey and Wax; both which are very conſiderable Commodities. But as I never kept *Bees* myſelf, I have been obliged to have Recourſe to a Friend, who communicated to me what, by many Years Experience, he had obſerved concerning them, that I might compare it with what had been ſaid by others upon that Subject.

Some Naturaliſts will have it, that the Origin of *Bees* comes from the dead Lion and the Ox; and that inſtead of Worms that uſually breed in the Bodies of other Animals, the *Bees* generate in the Bodies of theſe Creatures. This Extraction appears to me to be very wide of Truth, from an Experiment made by a certain Perſon of what *Virgil* ſays in his fourth *Bucolick*, which he found altogether falſe. The Fact is related in a little Tract ſuppoſed to be writ by a Country Clergyman, who ſays thus:

"*Virgil* appeared to me to be an Author of "Solidity enough to ground a probable Opinion "upon, and whoſe Credit was ſufficient to in- "duce me to make a Trial, which I unluckily "did, and thought I had poiſoned the whole Vil- "lage; for I cauſed to be ſtrangled a young "Bull, *Bina cornua ferens*, giving him a thouſand "Strokes with a Cudgel as he was dying, which "was more than I could warrant from the Poet: "for his Burial, I took the bruiſed Members, "with the two Horns, and put them into a great "wooden Tub, with four little Windows open to "the four Quarters of the Wind, in order, as "*Virgil* ſays, to produce Thouſands of *Bees*. "The King is ſaid to be bred from the Brain, the "working *Bees* from the Stomach, and the Drones "from the Guts: the King makes War upon "his neighbouring States, both by Sea and Land; "he marſhals his Army in *Battallia*; he rewards "his Captains, and Generals; he puniſhes the "Cowards with Death, and makes the Rogues "and Deſerters run the Gantlet; beſides a Thou- "ſand old Womens Tales, which ſeveral People "relate, and believe to this Day. But inſtead "of the Swarms of *Bees*, which I expected from "the Body of this Animal, there were Thouſands "of Maggots produced, with an inſufferable "Stench, that I thought would have infected all "the Neighbourhood: And the Stink was ſo great, "that all the Country fancied they were threatened "with the Plague." You may ſee from hence how falſe common Opinions are. And as I am not a capable Judge, I ſhall content myſelf to make ſome Obſervations, founded upon Experience, as you will find in the following Relations; and thoſe who deſire to be inſtructed further, muſt conſult the beſt Authors who have writ upon this Subject.

Obſervations upon Bees, *according to an Account delivered me by an underſtanding Perſon.*

The Production of *Bees*, at firſt, is, that they breed from a Kind of little white *Germen* or Sperm, that is poſited at the Bottom of the ſmall Holes or Sockets, that make up the Honey-Comb, which the *Bees* make in their Hives, and which they begin at the End of the Hive. This Sperm, aſſiſted by the natural Heat of the *Bees*, encreaſes and becomes a Kind of white Maggot, which at the beginning of its Formation, has no Reſemblance of the *Bee*, but in a Month's Time it becomes like one, but of the ſame Colour with the Maggot, and after continuing ſo a little while, it grows darker coloured, and comes out of the Socket. The *Bees* generate from *February* to the End of *October*, if the Hive be in good Condition: they ſwarm in *May* and *June*; but the *May* Swarms are more valued, becauſe they

they are ſtronger than thoſe that are later; becauſe the Seaſon is more favourable, and the Heat more temperate; whereas the Swarms of *June* cannot be ſo ſucceſsful, by reaſon they are uſually attacked with too much Heat and Dryneſs at firſt; ſo that they can neither ſupply themſelves ſufficiently with Proviſions for their preſent Occaſions, nor lay up Stores for Winter.

How the Bees *work their Honey.*

This I have obſerved with particular Care and extraordinary Application, having ſpent a great deal of Time, watching the Hives every Hour of the Day, to ſatisfy my Curioſity in ſeeing the *Bees* work, having provided them Glaſs Hives for the Purpoſe. Towards the End of the Winter, as ſoon as it is gentle Weather, and the Air begins to free itſelf of the great Coldneſs; in the Month of *February*, the *Bees* venture out of their Hives, range the Fields, and bring home Wax of different Colours; as white, yellow, Lemon coloured or red, which ſticks, like little Lentils, on the hinder Parts of their Thighs; and which, when entered into the Hives, they induſtriouſly quit themſelves of, and form with it their Holes or Lodgments, which they compoſe of ſix Sides, thinner and finer than Talc, and almoſt as tranſparent. It is obſervable, that the ſame Hollows, or Sockets, are the Places wherein they depoſit their Sperm, whence are generated the other *Bees*, and which are filled with Honey, as they become empty by the Production of the young *Bees* which they encloſe. They collect their Honey-Comb, or Wax, from all Sorts of Flowers, as the Roſe, the Orange, the Peaſe Bloom, and the Daiſy Flowers.

They bring, beſide the common Wax, a purpliſh kind firmer than the yellow, and ſerving them to ſtop the Holes and Cracks about their Hives: this Wax is of a ſtrong Smell, and very different from the common Kind.

Of the Manner how the Bees *gather their Honey, and the moſt proper Times to take it.*

The beſt Seaſon of the Year for the *Bees* to gather their Honey, is towards the latter End of *April* and in *May*, at which Times they go out by break of Day, when the Air is gentle and ſerene, and gather the Dew, which is more plentiful and common at that Time than any other of the Year: They return as quick as they can into their Hives, to diſcharge, into the Holes aſſigned them, the Honey-Dew they have gathered from the Simples of the Field, and which they have ſucked into their Bodies, and throw it up again, as Pigeons do their Food wherewith they feed their Young: And when they have filled a Hole or Socket with this Honey, they cloſe and ſeal it up with a ſmall Piece of Wax, to prevent it from flowing out again.

Towards the End of *June* and *July*, when the Dews are not ſo plentiful as during the Months of *April* and *May*, it happens ſtill there are ſome dewy Mornings in which the *Bees* are not leſs induſtrious than at other Times, to make their Harveſt: and likewiſe it falls out ſometimes that the Fruits of the Earth, as the Corn and the like, are damaged by certain cold drizzling Rains, which are however favourable for the *Bees*, giving them further time to make their Harveſt.

It is obſervable, that when they ſwarm, and that the young ones which compoſe the Swarm are come out of the Hive, they make as it were a Cloud of Flies in the Air, that looks black, and is formed, as they march out, into Squadrons and Battalions, like an Army. They follow cloſe their Leader, or the Principal amongſt them, who is much longer than the others, and whoſe Wings are much ſhorter, and who is of a reddiſh Colour. When they loſe their Leader, they become Vagabonds, and this is a certain Loſs to the Proprietor. When the Swarm are got out, they uſually aſſemble together, and lodge upon ſome ſhady Branch, rather than in any other Place; and being there cloſely knit, it is then proper to hive them, for fear they ſhould deſert; for ſhould they ſtay long till the Sun ſhines upon them, they will then ſeparate and fly away. When they are hived it is proper to ſet them in the Shade from the Heat of the Sun, which might melt their new Wax.

It is alſo to be obſerved, that the *Bees* Wax, for three Years together, is very plentifully productive in breeding of the *Bees*; and that the Age of the Honey-Comb is very eaſy to be known by its Colour; for the firſt Year it is whitiſh, the the ſecond it is yellow, and the third brown; but when older it turns black, is barren, and without Production, and then the *Bees* ceaſe to make Honey, and breed any more Swarms.

I have Hives made of two Pieces, in Form of a Barrel, or Sugar Loaf, cut in the Middle; ſo that I need not deſtroy the *Bees*; and I take the Honey of theſe Hives from Year to Year, by lifting up one Year one Part, and the following Year another, according as they are found full, and inſtead of thoſe that are full of Honey I put empty ones. One very remarkable Thing is this, that *Bees* delight much near Water, and watry Places, uſing a great deal of it in aſſiſting them to make Honey. I have been informed of this by ſeveral of my Friends, and particularly by an Officer of the King, who having *Bees* in a Garden at *Argen-*

teuil,

teüil, where there was a Fiſh-Pond, the *Bees* uſed to go, and come conſtantly to take up Water to carry to their Hives; upon which I aſked him, what he thought of it? And he told me, that it was a Thing he had always obſerved ſince he kept *Bees*.

Care muſt be taken not to have any Space or open Hole in the Top or Bottom of the Hive; for in *July* and *Auguſt* a kind of Butterflies breed and enter the Hives, and engender large, ſhort, hard Maggots, which make a kind of Webs like thoſe of Spiders, which joining the Combs together, produce a Heat, ſo that in two or three Days the *Bees* will be gone, and quite forſake it, after having pillaged it. Theſe Maggots, tho' but few at firſt, will multiply ſo, that in leſs than five or ſix Days they will not leave one Ounce of the Honey-Comb behind, but inſtead of it leave their Eggs; which together with the Webs that are formed, fill up the Whole of the Hive.

It is further obſervable, that amongſt the *Bees* there are Drones which will not go into the Fields at all; or if they do, which is not but from Noon till about four a-Clock, they bring nothing Home with them, but on the contrary eat the Honey made by others; and the induſtrious *Bees* kill the Drones, which are much larger and blacker than the others, and have no Stings; but when you preſs their Tails there appear two little Horns like tranſparent Skins, which are yellow at the End. In *Poland* and *Muſcovy* the *Bees* make their Hives in the Trunks of old Trees, and afford Plenty of Honey, on which the Peaſants almoſt live, without any Aſſiſtance, which is contrary to the Nature of ours. Upon this, *Munſter* and *Guyon* relate a ſurprizing Thing: A certain Peaſant falling into one of theſe Trees where the *Bees* made Honey, in a large Foreſt in *Muſcovy*, as he was ſearching for the Honey-Comb, and not being able to get out becauſe the Hollow of the Tree was too deep and wide, a Bear providentially coming to this Place to ſeek for Honey, the Peaſant immediately catched the Bear by the Paw, and was drawn out from the certain Danger he was in of periſhing in the Tree.

Lemery.

Apis, or the *Bee*, is a Sort of Fly that makes Honey and Wax, and is ſuppoſed to take its Name from being a Fly without Feet, which is not ſo in Fact, for it has Feet, but carries them cloſe to its Belly. It has four Wings; the Tongue is long, which it carries uſually out of the Mouth; it has ſmall Teeth, and the Sting cleaves to the Belly. The Antients pretended, that the *Bee* was generated from the Lion or the Bull; but the vain Trials ſeveral have made are ſufficient to confute ſuch a Notion, as being no other than the Fancy of the Poet. Indeed we read in the Holy Scripture, that *Samſon* found in the Carcaſs of a Lion, that had been killed ſome Days before, a Swarm of *Bees* and Honey; but they were never generated from the Fleſh of the Lion.

The Origin of them is certainly the ſame as that of other Flies, but only their Production is ſlower; yet from the white Maggot they become a perfect *Bee* in a Month's Time. The large *Bee*, which they call the King, becauſe of the others that attend and follow him, is a Male *Bee* that is capable of impregnating a great many Females, after the ſame Manner as one Bull does all the Cows of a Village. This *Bee* is much larger than the reſt, but he has ſhorter Wings. His Colour is reddiſh, inſtead of being brown, as all the others are. The *Bee* ſucks the Virtue of the Flowers, and receives it into her Pouch or Throat, from whence ſhe diſgorges it into the Hive, in order to work it up to Honey; ſhe carries alſo the Wax ſticking to her Thighs. The whole Inſect yields a great deal of volatile Salt and Oil. They are proper, being dried, to make the Hair grow. Being reduced to Powder, and mixed with Oil of Lizards, they make a kind of Liniment wherewith they rub the Head. The eſſential Salt of them is ſo volatile, that it is difficult to keep it in a dry Form. It is a moſt ſubtile and penetrating Thing, and one of the moſt powerful of Diureticks and Diaphoreticks.

24. *Of* Honey.

Pomet.

WE have three Kinds of *Honey* in *France* brought from ſeveral Parts, *viz. White Honey*, which is made without Fire, which ſome call *Virgin Honey*, as well becauſe it flows of itſelf, without preſſing, as becauſe it is made from the firſt Year's *Honey-Comb*. The ſecond ſort is made of all kinds of *Honey-Combs* put together (after being well cleanſed) into a Bag, from whence by the help of preſſing there flows a white Honey, but very different from the former; not only becauſe it is not of ſo fine a white, but becauſe the Taſte is not ſo agreeable. The third is the *Yellow Honey*, which is made from the *Combs* put over the Fire in a Kettle, with a little Water, and then put into Bags, and ſqueezed. The *Yellow Honey* is more or leſs fine, according to the Degree of Heat it receives; for if it be too much heated, inſtead of being a fine Yellow, it will be brown, and of an ill Smell. They ſay likewiſe, that the Honey is more or leſs beautiful and good, according to the Quantity of Water which is uſed to heat it.

The fineſt and moſt eſteemed *Honey*, is that of *Languedoc*, which is white; eſpecially that of *Corbiere*, a little Borough about three Leagues beyond *Narbonne*, which is the Place from whence comes the whiteſt and pureſt *Honey*, commonly called *Narbonne Honey*, tho' falſly ſo; for at *Narbonne* they do not know what you mean by *Narbonne Honey*, but are very well acquainted with that of *Corbiere*: the Name has been given to it, becauſe *Narbonne* is a great City, and much better known than *Corbiere*, which is but a ſmall Place. This true Honey, to have its proper Qualities, ought to be new, thick, candied, and entirely like Sugar-Royal, of a ſweet piquant Taſte, and a little aromatick. Next after this is that of other Parts of *Languedoc* and *Provence*, but very much different and inferior to that of *Corbiere*; not only becauſe it is never ſo white, but becauſe it is not ſo pleaſant to the Taſte or Smell, and has not the Roſemary Smell of the other, unleſs it is given it by Artifice. The third and laſt Sort is the white *Honey* about *Paris*, of the Country for twenty or thirty Leagues round, which gives it the Name of *Country Honey*; this is met with ſometimes ſo good, that, except in Smell, it is ſcarce inferior to that of *Corbiere*; that the *Narbonne Honey* muſt excel in theſe, may be readily granted, becauſe the Taſte and Scent of *Honey* proceeds from the Plenty and Goodneſs of the Flowers with which the *Bees* are fed. And as *Languedoc* and *Provence* are warm Countries, and conſequently full of aromatical Herbs and Flowers, as Thyme, Roſemary, Stœchas, *&c.* therefore the *Honey* is better, and of a more pleaſant Smell, and more bought up, eſpecially to make pectoral Ptiſans of, which is its chief Uſe; the Country *Honey* being principally employed in the great Compoſitions, and to eat in *Lent*.

As to the yellow *Honey*, the beſt that comes to *Paris*, and the moſt ſet by, is that of *Champagne*, which to be good, ſhoud be freſh or new, of a good Body, of a golden Yellow, the moſt candied, and leaſt full of Wax that may be; the Fault otherwiſe proceeds from the ill making of it; but the true *Champagne* is of much the beſt Sale, and of more Virtue than all the Honeys brought from ſeveral other Parts, as *Tourain*, *Picardy*, and eſpecially *Normandy*, which is ill-ſcented, reddiſh, and of a very bad Sale, tho' it is more purgative than that of other Parts. This *Honey* is very eaſily known, both by the Colour and Smell; and likewiſe becauſe it uſually comes in Stone Pots, ſuch as Butter comes in from *Normandy*. This *Honey*, tho' not ſo fine as the others, is yet very proper for the Apothecaries to make *Honey of Roſes*, *Violets*, or the like. There are ſeveral other Ends this *Honey* ſerves for; as to diſtil into a Water, Spirit, or Oil, which are reckoned proper to make the Hair grow, and to take out Marks, Spots, or Freckles in the Face. Some likewiſe aſſign to the Spirit of *Honey*, well rectified, the Power of diſſolving Gold or Lead.

Mel, or *Honey*, is a compounded Body of divers Parts of Flowers, which the *Bee* extracts, and receives into her Stomach to carry to the *Hive*, where ſhe diſgorges herſelf, and fills her Cell which ſhe has made in the Honey-Comb before for that Purpoſe. There are two Sorts of *Honey* in general; one white, and the other yellow: The white is made of the firſt Year's Stock, without Fire or Preſſing, which is called *Virgin-Honey*; and the ſecond is preſſed from the Wax, with Force, and by the Addition of Heat. The white *Honey* is finer, and more pleaſant for the Palate, and conſequently better for internal Uſes. The yellow has a little more Acrimony than the white, and therefore is more laxative, and externally a good Deterſive. Raw *Honey* is apt to gripe and ſwell the Belly, but being clarified, it opens, cleanſes, nouriſhes, and reſtores in Conſumptions; is pectoral, diuretick, and one of the beſt Opthalmicks in the World. *Lemery.*

The ſeveral Preparations made of *Honey*, and commonly ſold, are, Clarified *Honey*; the Spirit, Oil, and Water, the Tincture, and Vinegar, with Mead, Metheglin, and Hydromel. Clarified *Honey* is made with the Whites of Eggs; the Water, by putting *Honey* into a large Glaſs, or earthen Body, and diſtilling in Sand with a gentle Heat, until acid Drops begin to come; then ceaſe the Fire, and keep the Water for Uſe. To make the Spirit and Oil, take what remains in the Retort aforegoing, and put it into an earthen one, or glaſs one coated; but let it be ſo large, that two thirds of it may be empty: Place your Retort in a reverberatory Furnace, with a large Receiver, luting the Juncture; begin the Diſtillation with a ſmall Fire, for about three Hours, to warm the Retort; then increaſe it by little and little, ſo will the Spirits come forth, with a little black Oil, and fill the Receiver with Clouds; continue the Fire till all is come over, then ſeparate the Spirit from the black ſtinking Oil by Filtration; the Spirit will be in a pretty Quantity, the Oil little and inconſiderable. The Spirit of *Honey* is an excellent Aperitive, cools the violent Heat of Fevers, quenches Thirſt, and ſtrengthens the Stomach, and may be put into Juleps, to give them a pleaſing Acidity. It may be rectified by diſtilling it in a glaſs Cucurbit in Sand. What aſcends firſt is Flegm; that which riſes laſt is the ſtrongeſt

ſtrongeſt of all, and is uſed to cleanſe old Ulcers, as the Oil is to ſcale rotten Bones.

Tincture of *Honey* is made of pure *Virgin Honey*, mixed with waſhed Sand or Bone-Aſhes, whereon is thrown the beſt rectified Spirit of *Honey*; then let them ſtand in Digeſtion in a Cucurbit, having a flat Bottom, till the Spirit is tinged of a golden Colour, which decant, pouring new Spirit upon the Fæces, ſo long till it will be no longer tinged; mix the tinged Spirits together, and abſtract in *Balneo Mariæ*, till only a third Part remains, which is the Tincture, and one of the nobleſt Medicines for inveterate Coughs, Phthiſicks, and Catarrhs, from a Quarter of a Spoonful to a whole one. *Mead* is compoſed of one Part of *Honey* to eight Parts of Water, well boiled, and worked up with Yeſt Blood-warm, or clarified with the Whites of Eggs, Shells and all: Some add Aromaticks; as Cloves, Nutmegs, Cinnamon, Lemon-Peel, and Ginger; others Alteratives, as Thyme, Marjoram, Mint, Balm, Roſemary, Cowſlip, *&c.* ſome Diureticks, as Sweet-Briar, Eryngo, Tamariſk, *&c.* and ſo every Perſon makes it to his Fancy, whether for medicinal Uſes, or other Purpoſes. *Metheglin* is made of one Part *Honey*, and four Parts Water; to which may be added, Balm, Sage, Mint, Roſemary, Thyme, Bay-Leaves, Angelica, Savoury, *Roman* Wormwood, Geranium Moſchatum, Origanum, Nutmegs, Mace, Cloves, Cinnamon, Ginger, or the like, in the boiling of the Liquor; and in tunning of it up, ſome add black Currants, others Raiſins of the Sun. To make *Hydromel*, take of the beſt *Honey* eight Pounds; Raiſins four Pounds; Tamarinds half a Pound; fifteen Quarts of Water; boil all ſo long till an Egg will ſwim on the Top; let the *Fæces* ſettle; then decant the clear Liquor into a Caſk, adding to every five Pounds four Ounces of Spirit of Wine rectified; let it ſtand ſix Months, and then drink of it as you pleaſe. All the Preparations of *Honey* are pectoral and diuretick.

25. *Of* Bees-Wax.

Pomet. BESIDES the different ſorts of Honeys, and the Uſes made of them, we have a great Trade in yellow and white *Wax*. The firſt ſort is made from the Preſſing of the Honey-Comb over a Fire, with a ſufficient Quantity of Water; and when all is diſſolved, they ſtrain it through a Cloth; this done, they melt it, and ſcum off the Droſs and Froth, and afterwards caſt it into Cakes. Some Perſons, to refine the Wax, uſe *Roman*, or ſome other Vitriol; but for my own Part, the beſt Secret I know of, is to purify it well by melting.

That which we call *Wax*, is, in its natural State, the Honey-Comb which contains the Honey in the Hive. *Poland*, *Barbary*, *Bretagne*, and ſeveral Parts of *France*, furniſh us with a great deal of yellow *Wax*; but that of *Dantzick*, *Bretagne*, and *Champagne* is reckoned the beſt; but it is of no Conſequence what Place it comes from, ſo it be pure and of a good Kind. Chuſe ſuch as is of a high yellow Colour, a good Smell, eaſy to break, and that does not ſtick to the Teeth; and take care that it be the ſame on the Inſide as the Outſide; and, when in large Cakes, as that from *Dantzick*, that there be no Water, Stones, or Earth in the Middle, or that it be not mixed with Reſin, white Frankincenſe, or Pitch, or coloured with Turmerick or *Roucou*.

The Uſe of yellow Wax is conſiderable for ſeveral ſorts of Works; as Tapers, Candles, and other Wax-works. It is of great Uſe in Medicine; for it ſerves to give a Body to Ointments and Plaiſters; and likewiſe to make Sealing-wax for great and leſs Deeds. Some will have it, that yellow Wax has no Virtue in Phyſick. But by the Retort there is made with Wax, mixed with Earth, Bole, or Oak-aſhes, a white thick Oil, like Butter, which is called Butter of Wax, which ought to be white, and have the Smell of Wax. Of this Butter, together with Bole, Chalk, or the like, in Powder, by means of a Glaſs Retort on a Sand-fire, they draw a clear white Oil, like Water, that is of an agreeable and pleaſant Smell. The Butter and Oil of Wax are much valued for the Cure of Chilblains, eſpecially thoſe that are apt to chop, and other Maladies of the like Nature. That which remains in the Bags, after the Wax is ſtrained out, is nothing elſe but the dead Bees and other Filth: It is uſed by the Farriers. We meet with, beſides this, in the Hives, a kind of red Wax, called *Virgin Wax*, or *Propolis*, which is that the Bees uſe to ſtop up the Chinks or Holes of the Hives, to hinder the cold Air from entring. And therefore the more Cracks or Holes there are about a Hive, the more Propolis will be found there.

This was once much uſed, but at preſent is hardly known in the Shops, though it is very good in nervous Caſes.

Of White Wax.

The *White Wax* is made out of the yellow, cut by a certain Engine into ſmall Flakes, and then bleached in the Sun, by which it will become very white. It is then caſt into round Cakes, ſome thicker, ſome thinner. That is the beſt which ſmells well, and chews hard, not being mixed

mixed with Sheeps Suet, and is withal of a clear Colour, without any Caſt of Yellowneſs. The beſt, and moſt proper to turn white, is the yellow *Wax* of *Bretagne*, which when it is well made, as that uſually is of *Chateau Gontier*, eight Leagues from *Angiers*, which paſſes for the beſt Sort in *France*, will be pure, white, clear, tranſparent, in thick Cakes, that, when broken betwixt the Teeth, does not ſtick, neither has any ill Taſte or Scent.

It is with this fine *Wax* we make the fineſt Works; as Tapers, Wax-Candles, Flambeaux, Figures, and other Curioſities in Wax. And we reckon, after the *Chateau Gontier Wax*, the ſecond Sort is that of *Angiers*; the third that of *Mans*; the fourth that of *Holland*, which is generally brought in great Cakes of four or five hundred Weight; and the firſt Sort is that we call the *Dutch Wax Royal*; the fifth is that of *Amboiſe*; the ſixth of *Chaumont* near *Troyes*; the ſeventh and the worſt is that of *Roüen*, becauſe of the great Addition of Suet they put in, and it is better or worſe according to the Quantity of Suet that is mixed with it.

[*White Wax* is emollient and leſs reſolvent than the yellow; becauſe the Dews have waſhed away a great Part of its Salts.]

Of the ſoft Red *and* Green Wax.

The ſoft *Red Wax* is made of *White Wax* melted with Turpentine that is waſhed, and then coloured with Vermilion or Alkanet. This Wax ought to be of a good Conſiſtence, a fine Red, and well made. The chief Uſe of this, as well as the Green, is for the Lawyers to ſeal Writs and Deeds with. The *Green Wax* is made the ſame Way, only Verdigriſe is uſed inſtead of Vermilion.

Of the Black Indian Wax.

In ſeveral Parts of the *Indies*, as well *Eaſt* as *Weſt*, they have little Bees, which hive, or make their Neſts in the Hollows of certain Trees; the Figure of which is in the Plate of Bees. Theſe Bees depoſit their Honey in little Cells of black Wax, which are of the Size and Shape of Pigeons Eggs: The Honey is very peaſant, and of an Amber Colour. The *Indians* uſe this Wax to make Tapers of, and gather from the Tree the Balſam called *Tolu*, in Veſſels made of it. Some Authors ſay, that there is an Animal like a Cat, that is black, which the *Indians* call *Hierat*, or the Honey-Beaſt, which climbs the Trees, and eats all the Honey; and that which is ſurprizing is, that this Animal draws out the Honey-Comb with his Paw, and does no Damage to the Bees; and the Bees do not hurt him, becauſe they have no Stings like ours. This Wax was formerly much uſed in *Spain*, and a little in *France*; but at preſent we know not what it is, being one of the ſcarceſt Drugs we have. All the Kinds of Wax are naturally compoſed of Oil, volatile Salt, and Flegm, without Earth; being emollient, reſolutive, and proper for Ointments, Cerecloths, and Plaiſters.

[The Bee, like all other living Creatures, is produced from a Male and Female of the ſame Species. There are in every Hive three Sorts of them, the Mules, or common Bees; and the Drones which are the Males, and have no Sting; and the Females, or Queens, commonly but one in a Swarm, in which are perhaps a hundred Drones, and ten thouſand common Bees. The Queen will, in one Summer, give Birth to eight thouſand young ones. As to the Honey, notwithſtanding that the White is generally preferred, the Yellow is beſt in Medicine, as it is not ſo apt to candy, and is more ſpirituous.

It is penetrating and deterging, and therefore good in all Obſtructions from viſcid Humours, but not proper in thin hot Habits. Many Authors relate that Honey has been found in Places where there were no Bees; but as they never talk of its being formed into a Maſs, or lodged in Combs, in all Probability they only mean a Honey-Dew, which is indeed what the Bees make their Honey from.

The Chymical Preparations of Wax are but little uſed, but more than half the Ointments and Plaiſters of the Shops owe their Conſiſtence to it.]

26. *Of* Ambergriſe.

Ambergriſe is the deareſt and moſt valuable Commodity we have in *France*, and the leaſt underſtood, its Nature and Origin being the moſt conteſted; if I ſhould relate what Authors have ſaid upon this Subject, it would make a Volume of itſelf. But to reproach no body, and not to repeat what ſo many Authors have ſaid, I ſhall affirm, that *Ambergriſe*, which we have brought us from ſeveral Parts, and chiefly *Liſbon*, is nothing elſe but a Maſs of Honey-Combs that fall from the Rocks into the Sea, or are torn off by the Waves of the Sea, the Violence of the Winds, or otherwiſe. Theſe Honey-Combs being in the Sea, whether by a Property of the Sea-Water, or by the Virtue of the Sun Beams, are rendered liquid, and floating upon the Water, as they are often found. *Pomet.*

Many Perſons will be ſurprized at what I advance, that *Ambergriſe*, whoſe Nature hath been hitherto

hitherto ſo little known, comes from nothing but Bees Wax, which I could not have affirmed, if a Friend of mine had not aſſured me, he had ſeen a Piece that was one half *Ambergriſe*, and the other half Wax; and to confirm what I ſay, Mr. *De Monconys*, Lieutenant-General of *Lyons*, at Page 71, of his *Voyages*, affirms that he was informed in *England*, that *Ambergriſe* was nothing but Honey-Combs the Bees make upon the large Rocks, which are on the Sea-ſide in the *Indies*, which heated by the Sun, looſen and fall into the Sea, and by its Agitation are brought to Perfection; and that having broken a large Piece of *Ambergriſe*, which was not yet perfectly concocted, he found in the Middle of its Subſtance, the *Honey-Comb* and the *Honey*, both together: And for further Confirmation of this, we may add, that when the *Ambergriſe* is diſſolved in Spirit of Wine tartarized, there remains at laſt a Subſtance entirely like Honey. *Ambergriſe* therefore appears to be no other than the Production of the Honey-Comb, by the large Maſſes it is ſometimes found in, not indeed of three Hundred Weight, as ſome have writ, but however of thirty or forty Pounds.

Mr. *Tavernier*, amongſt other Things on this Subject, ſays, that in the Year 1646, or 1647, a *Zealander*, that was of one of the beſt Families of *Middleburg*, who was Governor for the *Dutch Eaſt-India* Company in the Iſle of *St. Maurice*, which is on the Eaſt of *Madagaſcar*, found on the Shore a Piece of *Ambergriſe* forty-two Pounds Weight, which he ſent to the Company; but, as ſuch Perſons have ever ſome Enemies, and the Piece appearing as if ſomething had been taken from it on one Side, the Commander was accuſed of having taken half, of which however he juſtified himſelf at *Batavia*.

As to the Choice of *Ambergriſe*, which ſome have called by the Name of *Oriental Ambra*, let it be in fine Pieces, of a greyiſh Colour on the Outſide, marked with little black Spots within, of a ſweet pleaſant Smell; and meddle not with that which is ſoft, fat, muſty within and without, and which is full of Dirt and Filth, that is got when the *Ambergriſe* was liquid, or before it gained its Solidity. The beſt Trial of it is a Diſſolution in Spirit of Wine; for that which is pureſt, and leaves the leaſt *Fæces*, is the beſt. The Fictitious is known by the Smell as well as Colour; the Materials of which it is made, appearing either too black or too white: they are commonly Muſk, Civet, Aloes Wood, Storax, *Labdanum*, Goat's Blood dried, *&c.*

Ambergriſe, beſides its Uſe for the Perfumers by reaſon of its excellent Scent, is a very good Medicine to warm the Stomach, and prevent the Cauſe of the Gout from attacking the vital Parts; it refreſhes the Animal Spirits by its volatile Sulphur, ſtrengthens the debilitated Parts, and reſtores in Conſumptions. As *Ambergriſe* is a very dear Commodity, thoſe who buy Quantities of it, muſt take great Care that there be no Mixtures in it, or that it be not counterfeited. The Fineneſs of the Subſtance of this Drug, is the Reaſon that it is never expoſed to the Violence of the Fire, but only diſſolved in Spirit of Wine, or Spirit of Roſes, or ſome ſuch like *Menſtruum* to prepare it, exalt its Smell, and ſeparate it from its earthy Parts: And this is called by the Name of *Tincture* or *Eſſence* of *Ambergriſe*.

Of Eſſence *of* Ambergriſe.

Eſſence of *Ambergriſe*, uſed by the Confectioners, Perfumers, Diſtillers, and others, may be made after theſe ſeveral Ways: To make Mr. *Charas's* Eſſence, take choice Ambergriſe, two Drachms; Sugar-candy, two Drachms; Spirit of Wine, four Ounces; ardent Spirit of Roſes, half an Ounce; put them into a Glaſs Matraſs, with a blind Head, luted in the Junctures, ſet in the Heat of the Sun, Horſe-Dung, or Sand; diſſolve and make a Tincture; decant the clear, and keep it for Uſe in a Glaſs cloſe ſtopt: The Doſe internally is three Drops in Cinnamon-Water, or any reſtorative Liquor. Another Eſſence is made thus: Take *Ambergriſe*, and white Sugar-candy, in Powder, of each two Drachms; Muſk one Drachm; Oil of Cinnamon, Citrons, Oranges, Roſes, Lavender, of each two or three Drops; mix and beat it up into a Paſte, and diſſolve it over a gentle Heat, in Spirit of Wine, in a Bolt Head; or you may make it with *Ambergriſe* alone, in Spirit of Wine tartarized, digeſting in a Sand Heat, or Horſe-Dung, for ſome Time.

The Way to make any odoriferous Thing yield its Scent, is by opening the Body of it (which done, the Smell exerts and diffuſes itſelf immediately) in ſuch Vehicles as have Power either to diſſolve the ſeparated Particles, or extract their *Sulphur* or Tincture. *Ambergriſe* is opened by grinding it firſt with Sugar-candy, then with Oil of *Ben*: It is alſo opened by grinding it with the Yolk of an Egg, and ſeveral other Ways. *Ambergriſe*, in its natural State, ſcarcely affords any Scent at all; but if it be opened, and excited by Solution, with a convenient Proportion of Odours and volatile Sulphur, ſuch as that of *Civet*, it preſently yields a ſweet and pleaſant Flavour. For Example: Take ten Grains of *Ambergriſe*, and three of *Civet*; beat them together in a Mortar, and the *Amber-*

griſe

griſe will preſently melt; upon which, put two or three Drops of Juice of Lemons, ſo will you have a Perfume of an admirable Sweetneſs. There is beſides the *Ambergriſe* we commonly ſell, a white Kind which is uſed in the Delicacies at the Tables of Perſons of Quality; as alſo a black Kind like *Liquid Labdanum*, which is ſaid to have been thrown out of the Stomachs of Fiſh that had kept it there ſome Time; this is uſed by the Perfumers, becauſe it has an agreeable Smell, and is cheap. All the Kinds are found on the Sea Shores, particularly thoſe of the *Archipelago*, becauſe of the frequent Earthquakes that Part of the World is ſubject to, which diſlodge all the Combs the Bees make on the Rocks at the Sea Side.

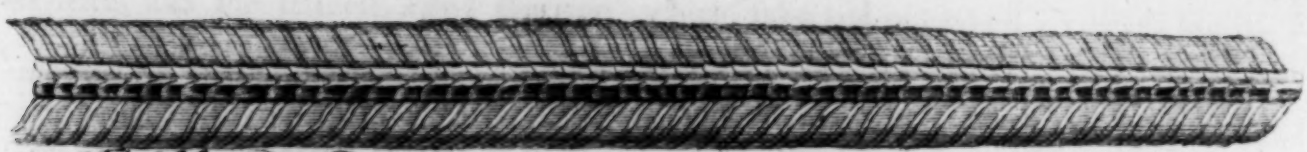
Ambra-griſea, ſeu Ambra Cineritia, Lemery. or *Ambergriſe*, is a valuable Commodity. It is very dry, and almoſt as hard as a Stone, light, opaque, greyiſh, and ſcented: It is found in Pieces of different Bigneſs, floating upon the Water in ſeveral Parts of the Ocean, as towards the Coaſts of *Muſcovy* and *Ruſſia*, and particularly in the maritime Parts of the *Indian* Seas. There was a Piece of a prodigious Size, that was ſaid in the Year 1694 to be carried into *Ireland*, that weighed 182 Pounds. The *Naturaliſts* have differed much in their Opinions concerning the Production of *Ambergriſe*, 'till of late it ſeems to be univerſally agreed, that it is made from the Honey-Combs that fall into the Sea from the Rocks, where the Bees had formed their Neſts; and this is confirmed by Experience, becauſe ſeveral Perſons have ſeen Pieces that have been one half *Ambergriſe*, and the other nothing but the plain Honey-Comb: And others again have met with large Pieces of *Ambergriſe*, where, in breaking of it, they have found in the Middle the Honey-Comb and the Honey too. Chuſe ſuch as is clean, well dried, light, and ſpotted within with little black Spots, of a ſweet pleaſant Smell; but avoid the moiſt, ſoft, and foul *Ambergriſe*, as being good for nothing: It is called *Ambra Cineritia*, as being of an aſh Colour. It ſtrengthens the Brain, the Heart, and the Stomach; procures Alacrity, and makes the Spirits gay, provokes Luſt, and is a good Antidote againſt Poiſon or Infection in Men; but raiſes the Vapours in Women, therefore let them avoid it. We meet ſometimes, amongſt the Druggiſts, with a white *Ambergriſe*, which differs from the other not only in Colour, for it is nothing ſo ſtrong, nor half ſo good. There alſo is a black *Ambergriſe*, but it is good for nothing in Phyſick, and but of very little Uſe for the Perfumers.

[*Ambergriſe* is the *Ambra*, *Aldr. Muſ. Met.* 430. *Succinum griſeum*, *Ambragriſea vulgo*, *Char. Foſſ.* 15. *Ambragriſea*, *Mont. Ex.* 12. There have been a Multitude of different Opinions about the Production of this precious Perfume; but the true Account of it is, that it is a ſoft Bitumen, oozing out of the Bottom of the Sea, and afterwards hardening. It frequently contains ſmall Stones, Pieces of Shells, and the Beak Mouths of Fiſh of the Calamary Kind, which have been miſtaken for the Beaks of Birds. It picks up theſe while ſoft at the Bottom of the Sea.

Ambergriſe was unknown to the antient *Greeks*, for no Author mentions it before *Aetius*. It is an excellent Cephalick and Cordial, enlivens the Spirits; and is very effectual in Faintings, and all other Affections of the Head and Nerves, and among the Eaſtern People is greatly eſteemed as a Provocative.]

27. *Of the* Viper.

THE *Viper* is a Kind of Serpent that is very common in ſeveral Parts of *France*, but chiefly in *Poictou*, from whence almoſt all the *Vipers* come that we ſell at *Paris*. Theſe Animals were terrible or frightful to all the World heretofore, but they are very familiar to us at preſent; inaſmuch that there are very few People of Quality in Places where they are to be had, but what make Uſe of them as good Diet, and a ſpecifical Remedy againſt ſeveral ſorts of Diſeaſes. This may be ſeen in Mr. *Charas's* Treatiſe of them, wherein he has produced all that can be ſaid on that Subject; to which the Reader may have Recourſe at his Pleaſure. I ſhall content myſelf in directing him to chuſe the largeſt, livelieſt *Vipers*, and ſuch as are newly taken; and to take Care that they are put into temperate Places, becauſe extraordinary Cold or Heat is hurtful to them: They ought likewiſe to be careful when they receive any freſh *Vipers*, to take them out of the Boxes they are brought in, and to take from them the dead ones, if there are any, as ſometimes it happens; and to put them into a Tub with Bran or Moſs; not that it ſerves them to feed upon, as ſome fancy, becauſe theſe Creatures never eat after they are taken; and notwithſtanding this, they will continue alive ſix Months. It is likewiſe to be obſerved, that they are to be taken either by the End of the Tail, or elſe with a Pair of Tongs; becauſe this Animal, when he finds himſelf ſqueezed, bites whatever he meets with; and the Biting of the *Viper* being very dangerous and even mortal, is the Reaſon why the Takers of them ought to be very cautious. The Keepers of them ought to be ſo likewiſe, leſt by Miſchance they ſhould eſcape and get into any Houſe, which would be very *Pomet.*



The Viper cry'd.

27



ye Heart & liver of ye Viper.





A Viper bringing forth Young ones.

29

The Sea Skink.





very dangerous, eſpecially where there are Children.

We have a great many dried *Vipers* brought from *Poictiers*, which ought to be heavy, large, long, well dried, and the freſheſt killed that can be got; for in a little Time after they are dead, the Worms will eat them in ſuch a Manner, that nothing will be left but the Skeleton. You ought to be careful likewiſe, that every Bundle or Parcel of *Vipers*, which is uſually a Dozen, have the Hearts and Livers along with them, theſe being the moſt noble Parts of the Animal, and weigh three Ounces and a half; and ſometimes, but very rarely, four Ounces; and take Care they be not ſuch as have died of themſelves, which you may eaſily diſcern, by their extraordinary Blackneſs. Some will ſay, that there are Snakes ſold for *Vipers*; but this I cannot affirm, having never known it to be done at *Poictiers*. There is, beſides, a great deal of Vipers Powder ſold; but thoſe that buy it ſhould take ſpecial Care, becauſe there is nothing more liable to be adulterated. The Hearts and Livers, reduced to Powder, and ſifted through a fine Silk Sieve, is what ſome call *Bezoar Animal*, pretending that this Powder, thus made, has the ſame Virtues with the *Oriental Bezoar*, treated of before.

They bring us alſo from *Poictiers*, the volatile and fixed Salt of *Vipers*, the Fat, and the black Oil that is made by the Retort, whoſe Virtues and Preparations you have thus deſcribed by Mr. *Charas*. Take *Vipers*, all their Parts very well dried, cut them into ſmall Pieces, with which fill a large Retort of Earth, or Glaſs well coated; fill it almoſt quite up to the Top, fix to it a very large Receiver, luting the Junctures well, place it on a naked Fire, in a cloſe Reverberatory Furnace, with its Dome; ſhut up the Regiſter of the Dome, and the Door of the Fire-place, make a gentle Fire in the Cinder-place, which keep on Foot for two Hours, only to heat the Retort and Furnace; then removing the Fire into its Place, keep it in the ſame Heat for two Hours longer; at the End whereof encreaſe the Fire one Degree, giving a little Air to the Regiſter of the Dome, continuing it ſo for two Hours more; and encreaſe the Fire to the third Degree for the ſame Time; after which ſet the Regiſter of the Dome quite open, encreaſing the Fire to the higheſt Degree, which continue ſo long till nothing comes out of the Retort, and that all the Vapours in the Receiver be converted into Salt or Liquor; then ceaſe the Fire, and the Veſſels being cold, unlute the Receiver, and diſſolve the Salt in the Liquor, or Spirit.

To rectify it, put all this diſtilled Matter into a Glaſs Matraſs, with a long Neck; place it in a Sand Heat, cover it with its Head, and join to it a ſmall Receiver, luting well the Joints, and give it a gentle Heat, ſo will the volatile Salt aſcend, white and cryſtalline, to the Top of the Head, which take and put up into a Glaſs Bottle, ſtopping it very cloſe. Continue the Rectification, ſeparating and keeping apart the Spirit, which is the remaining Part of the volatile Salt, diſſolved in ſome Flegm, and the Oil; and cauſe all the volatile Salt, and oily Parts, to aſcend, caſting away that which lies at the Bottom of the Matraſs, as a Thing of no Uſe.

This volatile Salt of *Vipers* is reckoned an Antidote againſt Poiſons, and a perfect Cure for the Biting of the *Viper*, or any other Kind of Serpent, or venomous Creature: It is alſo prevalent againſt the Meaſles, Small-Pox, Plague, or Peſtilence. It reſiſts Putrefaction in the higheſt Degree, becomes ſpecifical in intermitting Fevers, chiefly the *Quartan*; and there is ſcarce a Medicine known in the World more able to purify the Maſs of Blood, and give it its natural Fluidity: whence it does ſuch conſiderable Feats in chronick Caſes; as Scurvies, *Eryſipela's*, Scald Heads, and ſtrumous Breakings-out; cauſing the foul impure Humours to perſpire through the Pores of the Skin. It is alſo one of the moſt powerful Remedies in Nature for Gout, Rheumatiſm, and Venereal Relicks; for it opens, penetrates, attenuates, and is ſudorifick; ſo that it drives out any corrupted or malignant Humours, through the Habit of the Body; it diſſolves coagulated Blood, removes Inflammations, prevents Apoſthumes, and cures Pleuriſies. This Salt is very aperitive, and opens Obſtructions both of the Head and other Parts; and relieves all Diſeaſes of the Brain and Nerves; as Palſies, Convulſions, Vapours, Fits of the Mother, and the like; ſo that both for external and internal Uſes, there is ſcarcely found a more univerſal Medicine.

All other Preparations of *Vipers*, as Powders, fixed Salts, Tinctures, Decoctions, Broths, Jellies, Wines, Eſſences, Troches, Elixirs, Extracts, *&c.* compared with the volatile Salt, are nothing, for in that is to be found the Sum of all that is in the *Viper:* The Oil is ſo fœtid, that it cannot be taken inwardly; outwardly it may be uſed to ſmell to, and to touch the Noſtrils with in Vapours and Fits; but if it be made into an Elixir, with Spirit of Nitre, and Spirit of Wine tartarized, it is a moſt fragrant Medicine, chears the Spirits, ſuppreſſes Vapours, and invigorates Nature to a Miracle.

Le Febure teaches us how to fix this volatile Salt, which is done by Acids, *viz.* with well rectified Spirit of Salt, dropping it upon it, diſſolved in its own Flegm, 'till the Effervescency and Strife ceaſes,

ceaſes, by which the volatile Salt is united to the Acid: Now though there be no great Need of this, yet it may be of ſome Uſe to watry Stomachs; and though the Taſte and Shape of this Salt, thus fixed, much reſembles Bay Salt, it is quite another Thing in its Effects. This is evident by mixing it with double its Weight of Salt of Tartar, and ſubliming in proper Veſſels; for then the volatile Salt will aſcend with its firſt Force, Strength, and Virtue.

Lemery.

Vipera, or the *Viper*, is a kind of Serpent, which comes alive out of the Belly of its Parent, and not from an Egg, as the other Kinds do. It is about as long as one's Arm, and two Inches thick; ſometimes bigger, and ſometimes leſs, but never arrives at the Size of the large *Snake*, though in outward Appearance they are very like them. They are covered with a ſmooth Skin, a little ſcaly, on the Backſide of ſeveral Colours as in Waves, ſoft and viſcous underneath, and of very cloſe Pores. The Jaws are ſet on both Sides with little Teeth, like the Snakes; but beſides theſe little Teeth, there is on each Side a kind of a Tuſk, or a long, ſharp, cutting Tooth, that is ſometimes forked. In the Jaw is a Bladder, full of a yellowiſh Liquid; the Tongue is long and cloven, which it darts out with great Violence; being provoked, it looks like a Firebrand, which proceeds from the quick Motion or Agitation of the Spirits. This Tongue was ſuppoſed to be venomous, but it contains no manner of Harm in it: The Eyes are very ſmall. The *Vipers* breed in wild ſtony Places in *Dauphiny* and *Poictou*: They live, being at Liberty, on Rats, Frogs, Worms, and ſeveral other Inſects; but when taken and confined, they will live about a Year, without any other Subſiſtence but the Air they receive by the little Holes made in the Tubs or Cheſts wherein they are kept: The Reaſon why they live ſo long without eating, is, becauſe the Pores of the Skin are ſo cloſely contracted, that they emit but very little Spirits or *Effluvia*.

They take the *Vipers* in Spring Time, or Autumn, becauſe they are then fatter, and more active than in any other Seaſon: The Peaſants take them with little wooden Tongs made for that Purpoſe, and carry them in Bags to the Apothecaries. They are much more ſprightly and gay when they are in the Field, than after they are taken, becauſe they then draw themſelves up into a narrower Compaſs, and contract their Pores. Theſe differ from other Serpents, not only as to the two Teeth that are in their Jaws, but likewiſe by a different Connection of their *Vertebræ*, which hinders them, when they are taken by the Tail, from twiſting and turning about the Arm or the Tongs, as the Snake does.

The *Viper* bites with his long Teeth, and ſhoots into the Wound a Spirit, or very volatile acid Liquor, which inſinuates into the Veſſels, coagulates, by little and little, the Blood, and interrupts the Circulation; from whence flows Death, if not prevented. This Effect has a great deal of Analogy with that which happens upon ſyringing, through Curioſity, ſome acid Liquor into the Veins of a Dog, or other Creature; for in a ſhort Time he falls into Convulſions and dies.

The Accidents which attend thoſe who have had the Misfortune to be bit by a *Viper*, are firſt of all, that they grow pale, and then turn bluiſh, as the Blood is more or leſs tinged in the Veins and Arteries. In the ſecond Place, they become reſtleſs, melancholy, and ſleepy; the Pulſe intermitting, becauſe the Courſe of the Spirits being intercepted by the *Coagulum* that is made in the Veſſels, the Blood cannot circulate but with Difficulty. In the third Place, they are chilly or cold, have Inclinations to vomit, and convulſive Motions; becauſe the ſaline and acid Particles which are introduced into the Blood, and which are pungent, prick or irritate the internal Coats of the Veins and Arteries. And laſtly, they die, becauſe the Blood growing ſharper, and coagulating ſtill more and more, the Paſſage of the Spirits is entirely ſtopped, and there can be no Circulation, without which they cannot live.

The Remedies againſt the Biting of *Vipers* are external and internal. The external are, the ſpeedy binding of the Part wounded, if poſſible, making the Ligature tight, in order to hinder the Poiſon from ſpreading further; but if the Part that is bit cannot be bound, you ought inſtantly to apply upon it the Head of the *Viper* that did the Miſchief, after being bruiſed, or elſe that of another *Viper*; otherwiſe, to heat a Kniſe, or ſome Piece of flat Iron red-hot, and hold it near the Wound as hot as the Patient is able to bear it; or to burn upon the Wound a little Gun-powder; or elſe ſcarify, and apply Treacle with Garlick and Sal Armoniack bruiſed together.

Theſe external Remedies open the Pores of the Wound, and make the envenomed Spirits flow; but it ought to be obſerved, that theſe ſorts of Medicines ſhould be uſed upon the Spot where the Biting is made; for if there be Time given to the Poiſon to enter into the Veſſels of the Body, before Application, all will be uſeleſs, becauſe the Poiſon returns no more to the Wound. But though external Remedies ought not to be neglected upon this Occaſion, they are what bring but little Relief, in Compariſon of thoſe Things that may be

given inwardly; for the Venom of the *Viper* being very ſubtil, it paſſes inſtantly into the Blood, and therefore the Patient muſt take ſuch Medicines as have Power to break the Points of the Acids, diſſolve the Blood, and other coagulated Humours, excite or promote the Circulation, and puſh forward by Perſpiration and Urine whatever Poiſon of the *Viper* may remain.

The volatile Salts of Animals are efficacious for theſe Intentions, becauſe they are alcaline, very volatile, rarifying, ſudorifick, and aperitive. That of *Vipers* is preferable to all others, becauſe it is the moſt ſubtil; but inſtead of that, we may uſe the volatile Salt of *Harts-horn*, that of Urine, or human Skull. *Venice-Treacle* is very proper, if old, to relieve this Malady, becauſe it is compoſed of Ingredients chiefly attenuating and rarifying; but when it is new we cannot uſe it with Succeſs, becauſe the *Opium*, which has not yet been rarified by Fermentation, will fix the Poiſon, and rather thicken the Humours, than rarify and diſcharge them.

The largeſt *Vipers*, and ſuch as are well fed, ought to be choſen, and ſuch as are caught in Spring-time or Autumn, when they are in the beſt Condition. The Trunk of the *Viper*, ſeparated from the Skin and the Entrails, is adminiſtered againſt Poiſons, to purify the Blood in the Small-Pox, intermitting and malignant Fevers, boiled in Broths, or taken in Powder, from eight Grains to two Scruples, or a Drachm. The Fat of the *Viper* is ſudorifick, reſolutive, and anodyne, taken internally or externally; the Doſe from one Drop to ſix. The Liver and Heart of the *Viper* being dried and powdered, are called *Bezoar-Animal*, and are reckoned the moſt powerful Part of the *Viper*. The Gall is ſudorifick; the Doſe being one or two Drops. The Word *Vipera* comes from *Vi*, Force, and *parere*, to bring forth; the Antients believed that the Female *Vipers*, in the Pleaſure of Coition, eat off the Head of the Male; and that the young ones, to revenge the Death of the Father, ripped open the Belly of the Mother; but the Word *Vipera* ſeems rather to be derived from *viva*, alive, and *parere* to bring forth, which is as much as to ſay, the kind of Serpent that is brought forth alive, becauſe all the other Kinds are produced from Eggs.

28. *Of* Treacle, *commonly called* Venice-Treacle.

Pomet. TREACLE is a Compoſition of certain choice Drugs, prepared, powdered, and reduced into an Opiat or liquid Electuary, with Honey. *Treacle* takes its Name from the *Viper*, which the *Greeks* call *Therion*, or *Thyrion*; and it was compounded by *Andromachus* the Father, a Native of *Candia*, and firſt Phyſician to *Nero*. The *Venetians*, of late Years, have got the Reputation of being thought the only People who have the true Way of preparing the *Treacle*; but beſide them at preſent the Apothecaries of *Montpellier* make ſuch vaſt Quantities of it, that one may ſee Multitudes of their *Treacle* Barrels; and among them they have reduced it to ſo low a Price, that a Pound of good Honey will ſell for more than the ſame Weight of this pretended *Treacle*. If I was to publiſh the Frauds that are committed in preparing this Antidote, I am ſatisfied the Magiſtrates would preſently put a Stop to the Abuſe, both as to that which is ſold about at Markets and Fairs, as what is ſold at *Paris* for ſixteen or eighteen Pence a Pound. Though, notwithſtanding it is ſold at ſuch a low Price, thoſe who deal in it get conſiderably, becauſe what they ſell is nothing but the worſt Honey, into which is incorporated a Parcel of rotten worm-eaten Roots and Drugs, that are no better than the Sweepings of Shops; to promote or recommend the Sale of this, they cover the Pots with a printed Paper, whereon are two *Vipers* that compoſe a Circle, crowned with a *Fleur-de-Lis*, which contains this Title, *Fine Venice Treacle*, though it is made at *Orleans* or *Paris*.

As to that of *Montpellier*, I have ſeen it often made there, with all the Exactneſs that can be; but what is ſent to the Fairs for common Sale, they mix with large Quantities of boiled Honey, being obliged to ſell it at about eighteen Pence a Pound; though that which is true ſtands them in above forty Pence a Pound. The *Treacle* Makers are called by the honeſt Apothecaries, to ridicule them, Muſtard-Makers. As to the *Treacle* made at *Venice*, I can ſay nothing to it, not knowing directly how they make it; but as to what is made at *Paris*, by Meſſieurs *Charas*, *Geoffry*, *Joſſon*, *Bolduc*, and *Rouviere*, I have ſeen it prepared with all the Care imaginable. And I can affirm, for a certain Truth, that there was a large Quantity thereof made in *March* 1688, without ſubſtituting any one Thing for another, and with the fineſt and beſt Drugs that were ever ſeen, being deſigned for a Maſter-Piece, or Trial of Skill; but as we are not immortal, and that thoſe who ſell this may be capable of knowing the true Compoſition, and of making it themſelves aright, in order to prevent Abuſes, I ſhall here give you the true Receipt; which I would not have done, if Mr. *Charas*, who has writ a particular Treatiſe of *Treacle*, had mentioned the Names of the Drugs in *French*: his Book is entitled, *The Natural*

Hiſtory of Animals, Plants, and Minerals, that make up the Compoſition of Andromachus's Treacle.

Andromachus's *Treacle.*

Take Troches of Squills, ſix Ounces; Troches of Vipers and Hedycroy, Long Pepper, Opium prepared, of each three Ounces; red Roſes, Florentine Orrice, Juice of Liquorice, wild Navew Seed, Tops of *Scordium*, *Balſam* of *Judæa*, fine Cinnamon, and Troches of Agarick, of each one Ounce and an half; Myrrh, *Arabian Coſtus*, Saffron, *Caſſia Lignea*, *Indian* Spikenard, Flowers of Camels Hay, *Olibanum* in Tears, White and Black Pepper, Dittany of *Crete*, Tops of white Horehound, fine Rhapontick, *Arabian Stœchas*, *Macedonian* Parſley Seed, Mountain Calamint, Turpentine of *Cyprus*, Cinquefoil-Root, Ginger, of each ſix Drachms; Poley Mountain, Ground Pine, *Storax* in the Tear, Spicknel, true *Amomum*, Valerian, Celtick Spikenard, ſealed Earth, Germander, *Indian* Leaf, calcined *Roman* Vitriol, Gentian Root, Gum Arabick, Juice of *Hypociſtis*, Fruit of the Balſam-Tree, Aniſeed, Fennil-Seed, common *Cardamum*, *Marſilian* Hartwort, Treacle-Muſtard, Flowers of St. *John's* Wort, Seeds of Biſhop's Weed, Gum Sagapen in Tears, of each four Drachms; *Caſtor*, long Birthwort, Candy Carrots, *Jews* Pitch, Flowers of the leſſer Centaury, *Opopanax*, and *Galbanum*, of each two Drachms; choice Honey three times the Weight of all; *Spaniſh* Wine as much as to give the due Conſiſtence.

To make the Troches of Squills. Take Pulp of baked Squills, twelve Ounces; Flower of the bitter Vetch, ſix Ounces; beat them into a Maſs, and form them into Troches. Troches of Vipers are made of the Fleſh boiled in Water with Dill and Salt, and cleanſed from the Bone, eight Ounces; Crumbs of Bread dried and ſifted, two Ounces. According to Mr. *Charas* they are made up of Dittany Root inſtead of Bread Crumbs. For Troches of *Hedycroy*, take yellow Sanders, Herb-Maſtick, Marjoram, *Aſarabacca*, of each two Drachms; Camels Hay, *Calamus Aromaticus*, the great Valerian, Aloes Wood, true Balſam, Cinnamon, *Arabian Coſtus*, of each three Drachms; Myrrh, Saffron, *Indian* Leaf, Spikenard, *Caſſia Lignea*, of each ſix Drachms; true *Amomum*, one Ounce and an half; Maſtick in Tears, a Drachm; *Spaniſh* Wine enough to form into a Maſs. The Way of making all theſe Troches is to be met with in moſt *Diſpenſatories*, eſpecially thoſe of *Paris*, *Bauderon*, *Charas*, and others.

The Grand Treacle reformed by Monſieur d'Aquin, *the King's Phyſician.*

Take dried Vipers, with the Hearts and Livers, twenty four Ounces; Troches of Squills, Extract of Opium, of each twelve Ounces; Roots of *Contrayerva*, *Virginia* Snake Root, *Angelica*, the great Valerian Spignel, Gentian, Birthwort, *Coſtus*, Indian and Celtick Spikenard, Cinnamon, Oil of Nutmegs by Expreſſion, Saffron, Dittany of *Crete*, *Indian* Leaf, Water Germander, Mountain Calamint, Poley Mountain, Ground Pine, Flowers of St. *John's* Wort, and the leſſer Centaury, *Arabian Stœchas*, *Amomum*, ſmall Cardamums, *Macedonian* Parſley-Seed, Biſhop's-Weed, *Marſilian* Hart-wort, and Myrrh, of each eight Ounces; Reſin of *Storax*, *Opopanax*, Gum Sagapen and *Caſtor*, of each four Ounces; a mellaginous Extract of Juniper-Berries, ſeventy-two Pounds; *Malmſey* Wine, one Quart.

This Preſcription of Treacle has been better received than that of *Andromachus*, of later Years, by Reaſon of the vaſt Number of Ingredients, and the little Virtue that moſt of them have, which was the Reaſon why Mr. *d'Aquin* expunged what was ſuperfluous, and added other Things more neceſſary; the Deſcription of which Additions he gave to Mr. *Charas* to inſert in his Royal Galenical *Pharmacopœia*. As to the Virtues of Treacle, I ſhall not inſiſt on that Topick, becauſe there are ſeveral Authors who have treated of them; beſides the ſeveral printed Papers diſperſed with it, that come from *Venice* or *Montpellier*, that explain the Uſe of it. In ſeveral *Diſpenſatories* we meet with a third Sort of Treacle, called the *Diateſſaron*, becauſe it is compounded of four Drugs, which are the Gentian, round Birthwort, Bay-Berries, and Myrrh, all reduced into Powder, and made up with Honey, and Extract of Juniper, into an Electuary. This Treacle, tho' of a ſmall Price, is not wanting in good Qualities, being very uſeful for all Sorts of Cattle. Some People call it the *Poor's Treacle*, or *German Treacle*.

[And with the Addition of Ivory Shavings, in equal Quantity to the reſt, it is what is commonly ſold under the Name of *Diapente*; this is much uſed by the Farriers, who chuſe to buy it in the Powder, not mixt into an Electuary.]

Along with this Medicine, we have brought from *Montpellier* a Treacle-Water, called ſo, becauſe Treacle is the Baſis of it, and by Reaſon its Virtues, in ſome Meaſure, are like it. The *Montpellier Treacle-Water* of *Bauderon* make thus; Take fine Treacle, three Ounces; Roots of Tormentil, *Angelica*, Vipers Graſs, Dittany of *Crete*, and

and Saſſafras, of each two Ounces ; Bole, one Ounce ; Juniper-Berries, Citron-Seeds, *Carduus Benedictus*, Sorrel, and Purſlane-Seed, of each half an Ounce; Betony, Marygold, Balm, Water Germander, Borrage, and Bugloſs, of each one Handful ; fine Cinnamon and Mace, of each two Drachms ; Vinegar of Roſes, made of White-Wine, two Pounds ; Juice of Citron and Verjuice, of each ſix Ounces : Chuſe and prepare all your Drugs according to *Bauderon's* Diſpenſatory ; and from thence, by a Glaſs Alembick, you may draw a clear Water, of a ſtrong Smell of Treacle, having the ſame Virtues with it : But the ſmall Power there is in Vinegar, Juice of Citrons, and Verjuice, to diſſolve and raiſe the Virtue of the Aromaticks in Diſtillation, made the Sieur *de Pelerin* lay aſide this Preſcription, and follow that which Mr. *Charas* has given us in his *Diſpenſatory*, Page 1030, which will appear much more reaſonable.

Mr. Charas's *Treacle-Water.*

Take Roots of *Gentian*, *Angelica*, *Maſter-wort*, *Valerian*, and *Contrayerva*, of each two Ounces ; Citron and Orange-Peel, not candied, but dry, fine Cinnamon, Cloves, and Juniper-Berries, of each one Ounce ; Water Germander, and St. *John's* Wort Flowers, of each one Handful : Spirit of Wine, Walnut and Carduus Water, of each one Quart ; fine Treacle, four Ounces ; you draw from thence a very odoriferous Water, more efficacious, and better to keep than the former. It is very proper to reſiſt all Poiſons, and prevent Infections. The Doſe is from one Drachm to four, in a convenient Liquor. Likewiſe it is given ſometimes alone, in a ſmall Quantity. Mr. *Charas* ſays, that there is a Treacle-Water made, by diſſolving of Treacle in equal Parts of Spirit of Wine, and Vinegar diſtilled. They alſo make Treacle-Vinegar ſometimes only by diſſolving it in ſtrong Vinegar, which is uſed againſt the Infection of the Air, to waſh the Hands, Temples, and Noſtrils with.

When the *Roman Orvietan* was firſt known in *France*, we had it from *Rome*, and ſome other Parts of *Italy*, as *Orviette*, from whence it takes its Name ; but ſince that the Sieur *Contugi* came to *Paris*, and, under Pretence of the King's Permiſſion, took upon him the whole Management of this Medicine, the Druggiſts have left off to trade in it, either thro' Fear, or becauſe the Demand for it was not conſiderable. But they afterwards underſtood, that when the King gave his Authority to the Sieur *Contugi*, to ſell and trade in *Orvietan* at *Paris*, he did not intend to exclude the Druggiſts or Apothecaries at *Paris* from making it, as has been declared by an *Arreſt*, leſt he ſhould deprive *France* of a Remedy ſo valuable and neceſſary to the Publick : As notwithſtanding all the Care the Sieur *Contugi* could poſſibly take to make it in its greateſt Perfection, he never could make it ſo good as that of *Italy*, becauſe the Ingredients, which are very numerous, have not ſo great Virtues in *France* as in *Italy*, where the Heat of the Climate more exalts the Virtues of Simples than with us.

Orvietan.

Take Roots of Vipers Graſs, *Carline* Thiſtle, Maſter-wort, Angelica, Biſtore, Birthwort, Contrayerva, white Dittany, Galingal, Gentian, ſmall *Arabian* Coſtus, true Acorus, *Macedonian* Parſley-Seed, Leaves of Sage, Roſemary, Goats Rue, *Carduus Benedictus*, Dittany of *Crete*, Bay and Juniper Berries, of each one Ounce ; Cinnamon and Cloves, of each half an Ounce ; dried Vipers with their Hearts and Livers ; old Treacle, of each four Ounces ; white deſpumated Honey, eight Pounds to make it into a Body. By conſulting of *Bate's Pharmacopœia*, you may ſee how far this Recipe differs from that which he ſays Sir *Robert Talbot* communicated to him, and which we may ſuppoſe he brought from *France*.

Of Mithridate.

Take choice Myrrh, Saffron, white Agarick, Ginger, fine Cinnamon, *Indian* Spikenard, Frankincenſe, and *Thlaſpi*, or Treacle Muſtard-Seed, of each ten Drachms ; *Marſilian* Hartwort, Balſam of *Judæa*, Camels Hay, *Arabian Stœchas*, *Coſtus*, *Galbanum*, *Cyprus* Turpentine, Long Pepper, *Caſtor*, Juice of *Hypociſtis*, *Storax* in Tears, *Opopanax*, and *Indian* Leaves, of each one Ounce ; *Caſſia Lignea*, Poley Mountain, White Pepper, Water Germander, wild Carrots, Fruit of the Balſam-Tree, Troches of *Cephi* and *Bdellium*, of each ſeven Drachms ; Celtick Spikenard, Gum Arabick, *Macedonian* Parſley, *Opium*, the leſſer *Cardamum*, Fennel, Gentian, red Roſes, and Dittany of *Crete*, of each five Drachms ; Aniſeed, *Aſarum*, the true *Acorus*, great Valerian Orrice, and Gum *Sapagenum*, of each three Drachms ; Spignel, *Acacia*, the Sea-Skink, and St. *John's* Wort Seed, of each two Drachms and an half ; *Spaniſh* Wine, a ſufficient Quantity ; fine Honey, the Weight of all the Ingredients except the Wine ; and make all into an Electuary.

Of

Of Troches of Ciphi.

Take fat Raiſins, *Cyprus* Turpentine, each three Ounces; choice Myrrh, Camels Hay, each an Ounce and half; fine Cinnamon, half an Ounce; *Calamus Aromaticus*, three Drachms; *Bdellium*, Spikenard, *Caſſia Lignea*, *Cyperus*, Juniper-Berries, Aloes Wood, each two Drachms and a half; Saffron, a Drachm; fine Honey, *Spaniſh* Wine, enough to make them into Troches. The Way of compounding Mithridate differs nothing from that of Treacle; and as to theſe Troches, the *Diſpenſatories* of *Bauderon* and *Charas* ſhew us the Manner of preparing them.

[In regard to all theſe Compoſitions, as they have properly no Buſineſs in a Work of this Nature, I ſhall not add to the Length of this Chapter, by ſaying any thing farther about them, eſpecially as we have now a new *Diſpenſatory*, in which they are all very greatly reformed and amended.]

29. *Of the* Sea-Skink.

Pomet. THE *Sea-Skink* is an amphibious Animal, pretty much like a ſmall Lizard. It is about half a Foot long, and an Inch in Diameter, having a ſharp Noſe, covered with Scales. It has two little piercing Eyes, and a Mouth divided to the Place where the Ears ſhould be ſeated, had this Creature any. It has a great many little white and red Teeth, and goes upon four Feet, little more than an Inch high, which are very like thoſe of an Ape. Its Body is covered with little round Scales, different from thoſe of the Head, which are long and large. They are greyiſh, inclining to brown upon the Back, and of a Silver grey under the Belly. The Body of this Animal grows ſtill ſmaller to the End of the Tail, like the Viper's.

There are a great many of theſe little *Skinks* to be found in the *Nile* in *Egypt*, from whence they are brought us by the Way of *Marſeilles*, only the Entrails are taken out, and the ſmall End of the Tail is cut off. Chuſe ſuch as are the biggeſt, longeſt, heavieſt, moſt dry and entire, and leaſt worm-eaten, to which they are very ſubject. They are reckoned proper to reſtore Warmth in old Age, and Decays of Nature, to encreaſe the *Semen Virile*, and are one of the Ingredients of *Mithridate*.

The Reverend Father *Du Tertre* ſays, that he ſaw not only in *Guadoloupa*, but likewiſe in other of the *American* Iſles, the true *Skinks*, altogether like thoſe brought from *Ægypt*. They are, he ſays, a ſort of *Lizard*, by the Inhabitants of *Guadoloupa* called *Mabouia*, and in ſome other Iſles, the *Land Pike*. Theſe *Skinks* are more fleſhy than other Lizards, the Tail is thicker, and the Legs and Feet are ſo ſhort, that they creep upon the Ground. Their Skins are covered with an infinite Number of little Scales, like thoſe of Snakes, but of a yellow Colour, ſilvered, and ſhining, as if rubbed with Oil. Their Fleſh is good againſt Poiſon, and the Wounds of envenomed Arrows.

Lemery. *Scincus Marinus*, or the *Skink*, is a little amphibious Animal, reſembling a ſmall Lizard, or rather a little *Crocodile*, as long as one's Hand, ſometimes thicker than an Inch, covered with little Scales of a Silver Colour, eſpecially under the Belly, having brown Streaks croſs the Back; the Head is oblong, and thicker over the Jaws than the Neck; the Eyes very little; the Noſe ſharper than that of the *Lizard*, covered with Scales as the reſt of the Body is; the Mouth is cut in very deep, ſet with a great many little white Teeth. Some Authors call it *Crocodilus Minor*, or the little *Crocodile*. It is bred in the *Nile*, and ſeveral other Parts of *Ægypt*, and feeds upon aromatical Flowers. It never grows bigger than as we have it brought to us. They open the Belly and take out the Entrails, then fill it with Poley, or ſome other dried aromatical Herbs, in order to preſerve it. This Creature affords a great deal of volatile Salt and Oil. Some People prefer the Kidneys before the reſt of the Body; but there is no Difference in the Virtue of any of them.

[The *Skink* is the *Scincus*, *ſeu Crocodilus Terreſtris*, *Raii Syn. Anim.* 271. *Scincus quem et Crocodilum Terreſtrem vocant. Geſn. De Quad. Ægyp.* 24. *Scincus Marinus. Mont. Ex.* 6.

It is brought to us dried from *Ægypt*, but is never uſed except as an Ingredient in ſome officinal Compoſitions.]

26. *Of* Silk-worms.

Pomet. THE *Silk-worms* are little Inſects, whoſe Origin is altogether ſurpriſing, as well as the various Shapes and Changes they undergo. Several Authors have writ of them; and amongſt the reſt Mr. *Iſnard*, in a little Treatiſe of his, at the 254th Page, gives this Account of their Original. "At the Time when the Mulberry-"Leaves are ready to gather, which ſhould be five "Days after their Budding, in the Beginning of "the Spring, they take a Cow, which is almoſt at "Calving, and feed her wholly with Mulberry-"Leaves, without giving her any Thing elſe to "eat of Herbs, Hay, or the like, till ſhe has "calved; and this they continue for eight Days "longer;

" longer; after which they let the Cow and Calf " both feed upon this ſome Days together, with- " out any other Mixture, as before: They kill " the Calf after it has been filled or ſatiated with " the Mulberry-Leaves and the Cow's Milk; then " chop it to Pieces to the very Feet, and with- " out throwing any thing away, put all together, " the Fleſh, Blood, Bones, Skin, and Guts, into " a wooden Trough, and ſet it a-top of the " Houſe in a Granary, or Garret, till it is cor- " rupted; and from this will proceed little Worms, " which they lay in Mulberry-Leaves, to raiſe " them afterwards, juſt as they do thoſe which " are produced from the Eggs; and theſe Silk- " worms are abundantly more fruitful than thoſe " from the Eggs; ſo that thoſe who deal conſi- " derably in them, never fail every ten or twelve " Years to raiſe them this Way."

There are ſo many Particulars relating to the Management and Breeding of theſe little Creatures, that it would be troubleſome to dwell upon this Subject; beſides, it has no relation to my preſent Purpoſe; and ſince Mr. *Iſnard* has writ an entire Book upon it, I ſhall refer thoſe to it who would know further. Theſe little Animals ſupply us with a Commodity ſo valuable, that formerly thoſe only of the beſt Quality were clothed with it. There are ſeveral Colours of Silk; as white, yellow, and the like: Theſe different Silks are found in little Balls of the Size and Shape of a Pigeon's Egg; and by the means of warm Water, and certain *Windles*, they wind them into Skains, and then dye them of what Colour they pleaſe.

I ſhall not detain you with a Deſcription of all the different Silks that we have brought us from ſeveral Parts, contenting myſelf only to ſay, that what is uſed in Phyſick is the Natural; that is to ſay, the *Ball*, or what is wound up naturally, and without paſſing thro' hot Water, to which the Antients gave the Name of Raw-Silk; or rough as it comes from the *Silk-worm*. This Silk, after it is reduced to Powder, which is not very eaſy to do, is brought into ſeveral Compoſitions, as Confections of *Alkermes*, *Hyacinth*, *&c.* They uſe likewiſe Silk dyed ſcarlet, to give to Women in Child-bed, inſtead of *Alkermes*. Several Authors ſay, that Silk has the Virtue of making the Heart pleaſant, and the Spirits briſk, and to cleanſe the Blood. Thoſe who uſe the Balls of Silk ought to take care, before they reduce it into Powder, to cut it aſunder, and take away the Worm that is within, ſometimes freſh, and ſometimes rotten, with the firſt Skin that wraps it about, as not fit to be taken inwardly; and thoſe who would have the beſt, uſe nothing except the Silk that is wound off, becauſe the reſt is nothing but Droſs, or Refuſe Stuff. It may be reduced to Powder, by cutting it very fi ne, ſo that it will paſs thro' a Sieve; for to beat it, will be a tedious Work; beſides it will loſe h alf. As to the Confections of *Alkermes* and *Hyacinth*, the ſcarlet Silk ought to be preferred to all other, tho' almoſt all Authors recommend the Raw-Silk, which is that which is white, or of a Gold Colour, and which has not been dyed.

There are ſeveral other Reptiles which we ſell, as the Leeches which are found in Ponds and Ditches, and which the Surgeons apply to ſeveral Parts of the Body, and chiefly thoſe where Cupping-Glaſſes cannot be eaſily fixed. There are ſeveral Sorts of Leeches; the beſt of which are the ſmaller kind, which have ſmall Heads, reddiſh Bellies, with Streaks upon the Back, that are of a Gold Colour. They are to be met with in clear running Water. Throw away the venomous Sort, which have thick Heads, and are of a green Colour, that ſhine like Glow-worms, and are ſtreaked with blue, and found in muddy Waters; for inſtead of relieving the Patient, they will cauſe Inflammations, Apoſthumes, Fevers, and malignant Ulcers that are ſometimes incurable. To keep theſe Leeches, put them into clean Water, that muſt be renewed from Time to Time, to which ſome will add Sand and Earth.

We ſell, beſides theſe, the Powder, volatile Salt, and Oil of Toads, as well as the Stone that is found in the Head of the large and old ones, to which the Antients attributed great Virtues; and Mr. *Charas* treats of it very largely, in his *Chymical Diſpenſatory*, *Page* 794; to which thoſe who deſire to know further may have Recourſe. There are ſome who rank the Toad-Stone among the precious Stones, not only becauſe it is ſcarce to be met with, but becauſe it is endowed with ſo many excellent Virtues, being proper to reſiſt all Sorts of Poiſon. The white is the moſt valued, tho' thoſe which are of another Colour, are endowed with no leſs Virtues: They frequently impoſe upon the Buyer, inſtead of the Toad-Stone, a little round or longiſh Stone, that is found in ſeveral Parts of *Europe*.

We ſell likewiſe volatile Salt, Oil, and Powder of *Millepedes*, or Hog-Lice, to which Mr. *Charas* aſſigns great Virtues. The Powder is given with Succeſs in Nephritick Cholicks, Retentions of Urine, the Jaundice, Diſeaſes of the Eyes, and all Obſtructions. Mr. *Charas* attributes alſo great Virtues to the volatile Salt of *Cantharides*, Earth-Worms, and Ants; as may be ſeen in his *Chymical Pharmacopœia*. We ſell likewiſe the Oils of *Scorpions*, ſimple and compound, which we have ready made from *Provence* and *Languedoc*, and for which we have a better Price than for thoſe made

made by the Apothecaries at *Paris*; and which, without Diſpute, are much better, becauſe the *Scorpions* are moſt frequent in thoſe Provinces. And the other Ingredients have alſo more Virtue there, from the Warmth of the Climate. The firſt or ſimple Oil of Scorpions is only made of Scorpions and Oil of bitter Almonds: The Compound is that of *Matthiolus*, which is made of the following Drugs, *viz.* of Scorpions, old Oil Olive, the Flowers, Leaves, and Seed of St. *John's* Wort, Germander, Mountain Calamint, *Carduus Benedictus*, Water Germander, leſſer Centaury, Vervain, Dittany of *Crete*, Zedoary, White Dittany, Gentian, Tormentil, round Birthwort, *Storax*, Benjamin, Juniper-Berries, *Nigella* Seed, fine Cinnamon, *Calamus Aromaticus*, long *Cyperus*, white Sanders, Rhubarb, Myrrh, Aloes, *Indian* Nard, Saffron, Treacle, Mithridate, and White Wine; the Quantities of theſe Ingredients you will find in *Matthiolus's* ſixth Book of Poiſons; or in *Bauderon*, or *Charas's Diſpenſatory*, whereto thoſe who deſire to make it may have Recourſe. This Oil is one of the moſt difficult Compoſitions in Pharmacy, becauſe of the different Mixtures, and the Difficulty of getting the Scorpions alive from *Provence* or *Languedoc*.

Bombyx, ſive Vermis lanificius, the *Silk-worm*, is a Kind of Caterpillar, or a Worm as long and thick as one's little Finger, divided from one Part to another in a Sort of Rings; having under them uſually fourteen Feet, ſix in the fore Part, which are very ſmall, and eight on the hinder Part, which begin after the third Ring: The two laſt are much larger than the reſt; the Shape of them is ugly to look upon; their Subſtance very moiſt and viſcous. They are clothed with a very thin tender Skin, eaſy to break, and of a brown or whitiſh Colour, with ſome Spots. The *Silk-worm* is produced in the Spring, from a little round Egg, that is like a Poppy-Seed; is fed with Mulberry-Leaves freſh gathered; for if they are decayed, they kill the Silk-worms. When they are grown to their full Size they eat no longer, but ſpue out of their Mouths a kind of thick, gluey, or viſcous Slaver or Foam, which they ſtretch, extend, and work to a Silk Web, and then wind into a *Clue*, that is ſometimes white, and ſometimes yellowiſh, and in this the Animal is wrapped, and lies ſeveral Days, ſtill working till it dies; but if you do not in time throw this *Clue* into Water to draw off the Silk, it will quit this thick Clothing, pierce thro' the *Clue*, and ariſe a fine, white, gaudy, active Butterfly; and if you leave after this Manner a Number of them, you will have a diverting Sight, to ſee the Male and Female Butterflies careſſing, and making Love; from whence, afterwards, you have Eggs.

Lemery.

The Silkworms yield Abundance of Flegm and Oil, but little volatile Salt. They are reckoned very good to cure a *Vertigo*, if after they are dried and powdered you apply the Powder upon the Head, being firſt ſhaved. The Silk upon the *Clue*, before it is caſt into the Water, is called *Sericum crudum*, or Raw-Silk. It ought to be cut aſunder to uncover the Worm within it. This yields a little Flegm, a good deal of Oil, but very little volatile Salt and Earth. It is thought proper to recruit the Spirits, and purify the Blood, being taken in Powder. Some People hold, that if you feed a Calf with Mulberry Leaves, then kill and cut it to Pieces, and expoſe it to the Air, upon a Houſe, it will produce Silk-worms; but this Thought wants Confirmation. In the Parts where they trade in Silk, as *Savoy*, *Languedoc*, and *Provence*, they put their Silk-worms in Chambers, where they are diſpoſed in Repoſitories or Niches, where they make their *Clues*; good Quantities of which they preſerve on purpoſe to have Eggs, and they throw the reſt into warm Water, wherein the Worms die.

[The Silk-worm is the *Bombyx*, *Aldrov. De Inſ.* 278. *Jonſ. De Inſect.* 114. Its Origin is from the Eggs of a Female Butterfly, as all the other Caterpillars have theirs. Mr. *Iſnard's* Account of their Production, is much ſuch another Story, as *Virgil's* of the Bees, for unleſs the Silkworm Butterfly would lay its Eggs in putrified Fleſh, which it is moſt certain ſhe never does, it is altogether impoſſible young Silk-worms ſhould ever be found there. The Raw-Silk was once in eſteem as a Cordial and Sudorifick, but at preſent is never heard of in the Shops.

The Toad is the *Buſo*, *Jonſ. De Quad.* 131. *Buſo ſive Rubeta*, *Raii Syn. An.* 252. *Rana Rubeta tum Paluſtris tum Terreſtris*, *Geſn. De Quad.* 54. The dried Toad is a good Medicine in Dropſies, being a powerful Diuretick taken in Powder from two Scruples to a Drachm.

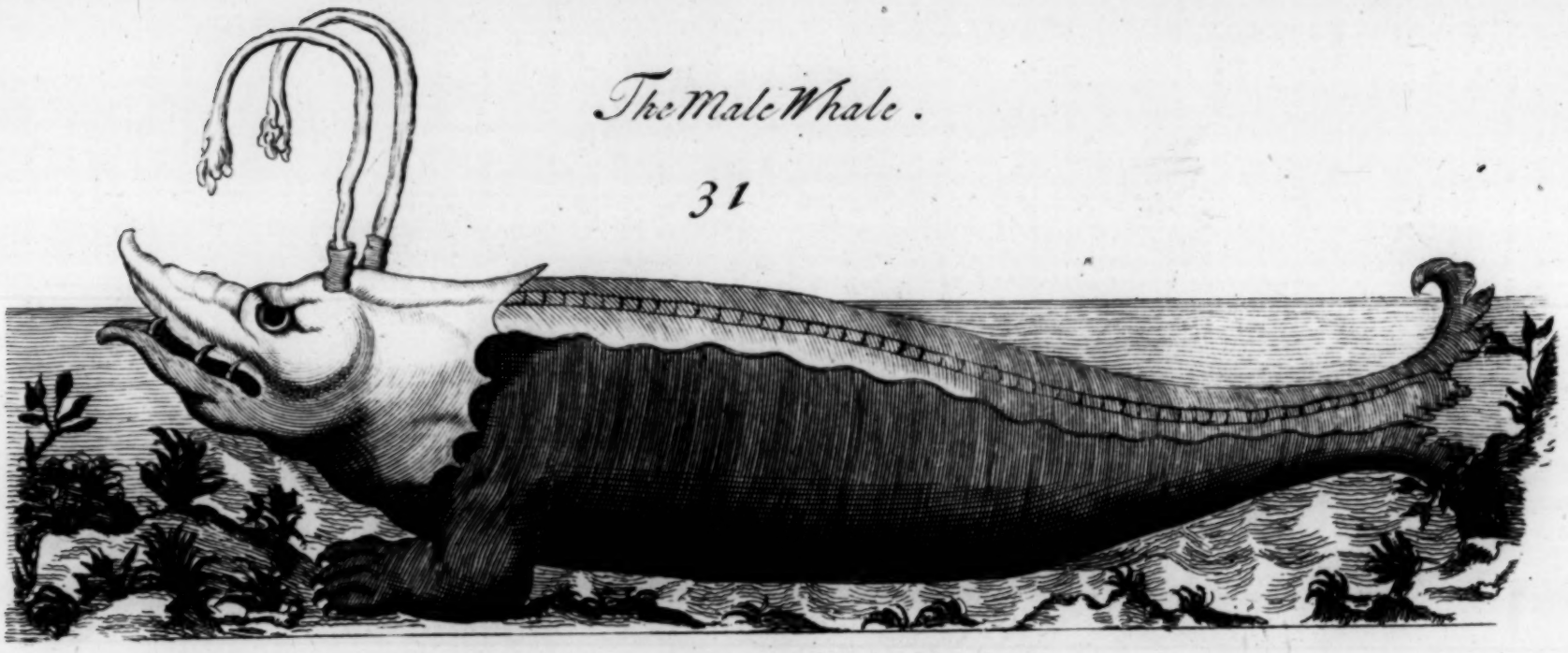
What is commonly called the Toad-Stone, and generally believed to be taken out of the Head of the Toad, is a ſmall Subſtance of various Colours, ſometimes brown, ſometimes black, ſometimes greeniſh, and ſometimes of a duſky green and whitiſh-brown marble together, concave on one Side, and convex on the other.

Theſe Stones, as they are called, are not taken out of the Toads Head, but are the *Dentes Molares* of the Sea Wolf, the *Lupus Marinus Schonfeldii*. *Jonſ. Tab.* 47. *Lupus Marinus noſtras et Schonfeldii*. *Raii Icth.* 130. They have been formerly ſuppoſed good in peſtilential Diſeaſes, and Antidotes againſt

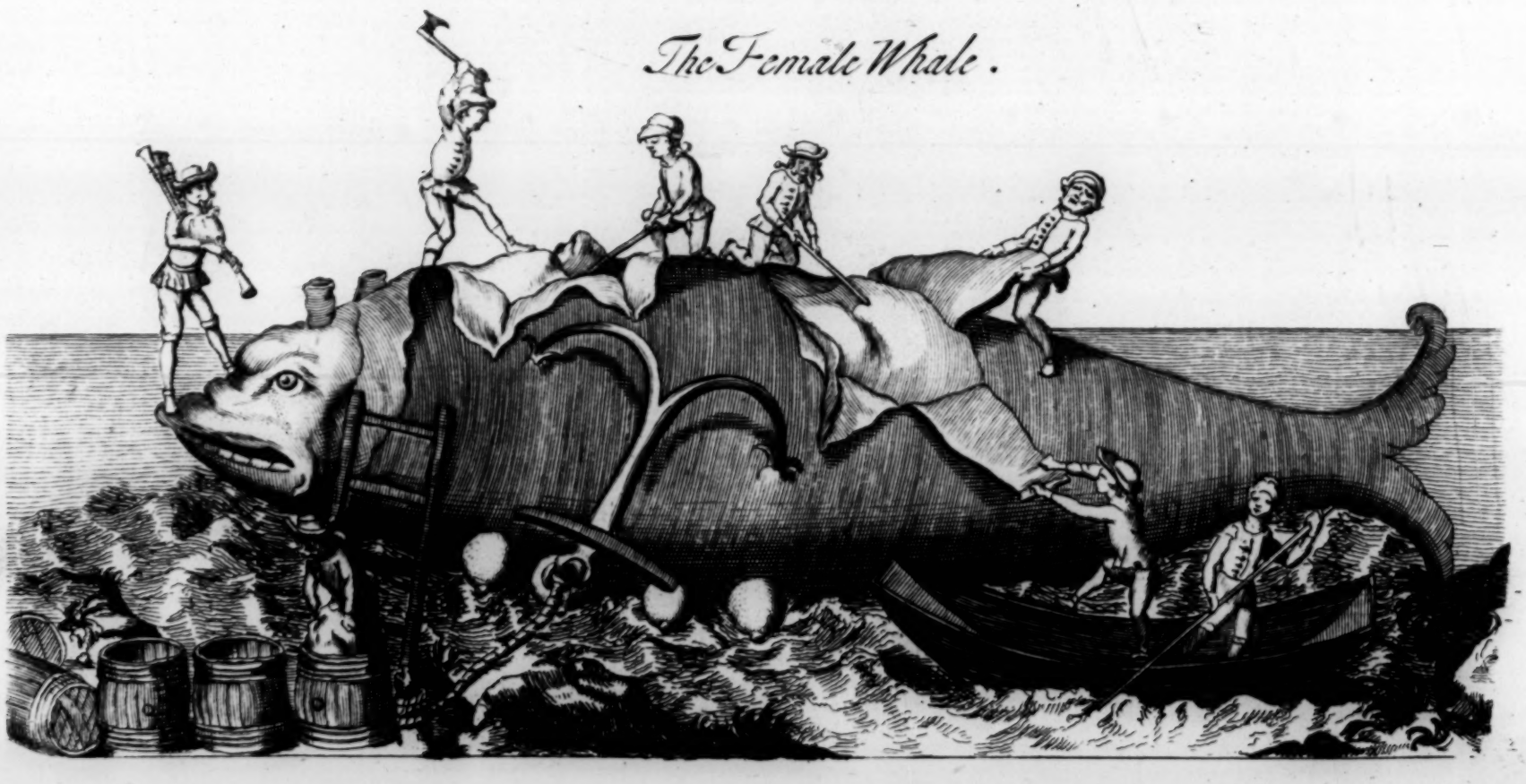

The Plane where ye Silk Worms feed & make ye Silk. 30
A Calf cut into pieces from whence ye Silk Worms are bred.
how they wind ye Silk.
A Cow feeding on ye Mulberry leaves.
The Silk Worm turn'd into a Butter-fly.
The Silk Worm in ye Cod, & feeding on ye Mulbery leaves.

The Male Whale.

31



The Female Whale.



againſt all Kinds of Poiſons, but are wholly neglected in the preſent Practice.

Millepedes are the *Aſelli Millepedes et Oniſci* of the Shops, the *Aſellus lividus major. Raii Hiſt. Inſ.* 42. *Onixus ſive Aſellus. Aldrov. de Inſ.* 632. Of theſe there are many Preparations, but the beſt Way of taking them is certainly the ſwallowing them alive, and the next to that their Expreſſion made with Wine.

The Scorpion is the *Scorpio, Jonſ. de Inſ.* 95. *Scorpius, Raii Hiſt. Inſ.* 9. It is an Animal ſomething reſembling a Crab, but ſmaller, it has eight Legs, and is of a black or duſky brown Colour, the Oil is much in Eſteem as a Remedy againſt the Creatures Poiſon, which it may indeed eaſily be, by its own Virtues, whether it receive any thing from the Scorpion or not. The Aſhes of them, when burnt, are alſo commended in the Stone and Gravel, but ſeldom uſed.]

31. *Of the* Whale.

Pomet. THE *Whale* is the largeſt of all Fiſh, it is found in the Northern and North-Weſt Seas. The *Skeleton* of one was ſhewn at *Paris* 1658, whoſe Skull was between ſixteen and ſeventeen Feet long, weighing four thouſand ſix hundred Pounds; the Jaws ten Feet wide, and fourteen Feet long, weighing each eleven hundred Pounds. The Fins, which looked like Hands, twelve Feet long, and weighing each ſix hundred Pounds. The Ribs twelve Feet and a half long, each weighing fourſcore Pounds. The Joints of the Back, from the Head to the End of the Tail, forty five Feet long; the firſt Joints weighing fifty Pounds each, and the others leſs, according as they come nearer the End. I ſhall not trouble myſelf to give an Account of all that relates to this Animal, or the Manner of taking it, becauſe ſeveral Authors have treated of it; but I ſhall only ſay, that there are two Sorts of Whales; the one is called *Cachalot*, which differs from that which is called the *Whale*, in that the Mouth of the *Cachalot* is furniſhed with little flat Teeth, without a Beard or Whiſkers, which is contrary to that which commonly bears the Name of the *Whale*, which has nothing but Whiſkers. Theſe Whiſkers are what we call *Whale-bone*. It is from the Fat of theſe Animals, that they draw *Whale Oil*, which is a very great Commodity, eſpecially in Times of Peace, by reaſon of the great Uſe they have for it in *France*, as well for Burning, as ſeveral other Uſes, wherein it is very neceſſary. We have two Sorts of Whale Oil come to *Paris*, the beſt of which is, that which we call Oil of the Great Bay, which is by the *French* made of the Fat immediately after it is taken from the *Whale*; whence it comes that the *French* Oils do not ſmell ſo ill as thoſe made in *Holland*, becauſe the *Dutch* do not make their Oils from the Fat ſo ſoon as it is drawn from the *Whale*, but bring it into *Holland* to be melted; wherefore we ought to prefer the *French Oils* to thoſe of *Holland*, which are eaſily known, becauſe the *Dutch* are red and ſtinking, and yet are clear. The great Quantities we have of Whale Oil, come from the Northern Sea, eſpecially *Greenland*, from whence the *Hollanders* are ſupplied, becauſe the greateſt Number of *Whales* are found there.

Of Sperma Ceti.

The *Sperma Ceti*, according both to the Antients and Moderns, and which, tho' improperly, is called ſo at this Day, is the Brain of a Sort of Whale called by the *Biſcayians Byaris*, and by the People of *St. John de Luz, Cachalot*. This Animal is named by ſome, the Male Whale, and in *Latin, Orca*; it is about twenty five Feet long, and twelve Feet high; each of the Teeth weigh a Pound, and are very uſeful for ſeveral Sorts of Works: Theſe Creatures are very common at *Cape Finiſterre*, on the Coaſt of *Galicia*, and in *Norway*. In the Year 1688, there was one taken by a *Spaniſh* Ship, that carried it to *St. Sebaſtian's*, from the Head of which were taken twenty four Barrels of Brain, and from the Body ninety ſix Barrels of Fat: They ought to be undeceived who believe that *Sperma Ceti* is any thing elſe but the Brain of the *Cachalot*; and I can affirm this with Certainty, not only having ſeen this prepared, but having prepared it myſelf, in the following Manner.

This *Sperma Ceti* is uſually prepared at *Bayonne*, and *St. John De Luz*; and this Work is ſo rare in *France*, that there are but a few Perſons at the latter Place, who know how to prepare it. Thoſe who perform this, take the Brain, and melt it over a gentle Fire; then they caſt it into Moulds like thoſe wherein they refine Sugar; and after it is cooled and drained from the Oil, they melt it again, and proceed after the ſame Manner, till it is well purified and very white; then, with a Knife made for the Purpoſe, they cut it into Scales or Flakes, juſt ſo as it appears when brought to us. As this Commodity is of ſome Conſequence, by Reaſon of its Price, I muſt tell you, you ought to chuſe ſuch as is in fine white Flakes or Scales, that are clear and tranſparent, of the true natural Smell; and take Care that it be not augmented with white Wax, as it happens but too often, which is eaſy to diſtinguiſh, as well from the Smell of the Wax, as becauſe it is very thin, and of a more unpoliſhed white.

white. Likewiſe carefully obſerve, that it be what is made of the Brain of the Whale, becauſe that which is made of the Fat, is very apt to turn yellow, and this is the Reaſon we ſometimes meet with *Sperma Ceti* that immediately turns yellow on being expoſed to the Air; we have no Commodity which is ſo ſenſible of the Air as this, which is the Reaſon why it ought to be carefully kept in Glaſſes, or in Barrels, cloſe ſtopped from the Entrance of any Air, leſt this Drug turn yellow. It diſſolves eaſily in unctuous Liquors, and is therefore a common Ingredient in Pomatums, and other ſuch Compoſitions. Women in Child-bed take of it, to a Spoonful, to remove After-pains, and aſſiſt their Cleanſings; and it is an excellent Remedy in Bruiſes, Inflammations, Pleuriſies, or the like, taken with Syrup of Violets, Oil of ſweet Almonds, *&c.*

Balæna, ſive Ceta, ſive Cetus, or the *Lemery. Whale*, is a vaſt Fiſh bred in the Northern Seas, whereof there are many Kinds. From the Fleſh of this they make the *Whale* or *Train Oil*; and from the Brain of a Sort of Male Whale, which they call the *Orca*, *Byaris*, or *Cachalot*, is made what we call *Sperma Ceti*. The Fiſh is common along the Coaſt of *Galicia* in *Spain*. When the Brain is ſeparated from the Head, they melt it with a gentle Fire, and caſt it into Moulds to cool; then they ſeparate the Oil, and ſo repeat the Work till the Matter is clear and white; after which they divide it into Scales or Flakes for Sale. This was called *Sperma Ceti*, becauſe the Antients believed that it was the Sperm of the Whale that floated on the Sea. Several Moderns have rejected this Opinion, but would eſtabliſh another which is as foreign from the Truth as the former. They ſay that the *Sperma Ceti* is a *Sea Bitumen*, or a kind of Sea Froth, that is driven by the Waves to and fro. It is aſtoniſhing that the Origin of this has been a Secret ſo long; for it is not above two and twenty Years, ſince it was known that this was drawn from the Head of the Whale. The *Sperma Ceti* is reſolutive and mollifying. They uſe it in Pomatums to ſoften and ſmooth the Skin; in Ointments or Liniments, to diſſolve the Hardneſs of the Breaſts: In Injections of the Womb, to ſoften the ſame; and it is given inwardly, to correct the Acrimony of Humours in the Breaſt or Belly. The Doſe from half a Scruple to two Scruples.

[The common Whale from which we have the *Train Oil*, and Whale-bone, is the *Balæna vulgaris. Ald. de Piſc.* 688. *Balæna vulgaris edentula dorſo non pinnato. Raii Syn. Piſc.* 6. *Balæna major laminas in ſuperiore maxilla habens bipennis, Fiſtula carens. Sib. Phal.* 27. *Balæna vulgo dicta, ſive Myſticetus Ariſtotelis Muſculus, Plinii, Geſn. de Aquat.* 114. It is common in the Northern Seas. The *Train Oil* is made from its Fat, and the Whale-bone, as it is called, is found in its Mouth in *Laminæ* of a horny Subſtance.

The *Sperma Ceti Whale* is the *Balæna macrocephala quæ binas tantum pinnas laterales habet. Sib. Phal.* 12. *Balæna major inferiore tantum maxilla dentata macrocephala bipennis. Raii Syn. Piſc.* 15. It is principally caught in the *Greenland* and *Iceland* Seas. What we call *Sperma Ceti* uſed to be prepared from a natural fat Subſtance, found in the Ventricles of the Brain, the Diploe of the *Cranium* and circumjacent Parts of this Fiſh; ſometimes by ſimple Meltings as deſcribed by our Author, and ſometimes by boiling in a ſtrong *Lixivium*, till all the Humidity being evaporated, a white ſolid Matter, like Soap, remained; this being cleanſed from the coarſe Oil, and Salts of the *Lixivium*, by repeated Meltings and Waſhings, they divided with Knives, into *Laminæ*, as we ſee it. But of late, they have found a Way of making it out of any ſort of Oil.]

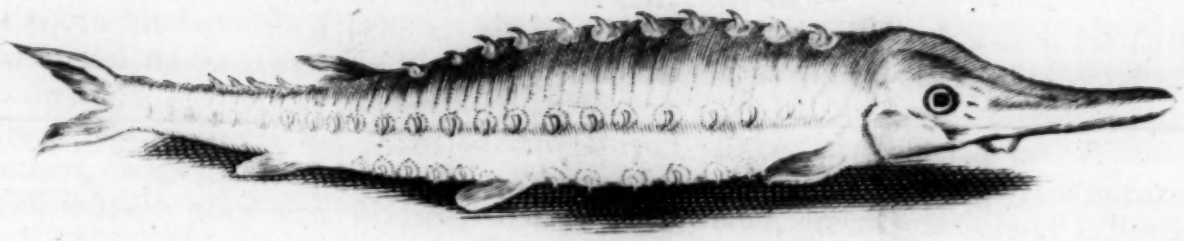
32. *Of the* Fiſh-Glue, *or* Iſinglaſs.

THAT which we call *Fiſh-Glue*, or *Iſinglaſs*, the *Latins*, *Gluten Alkanac*, the *Greek*, *Ichthyocolla*, and the *Arabs*, *Alcana*, is the mucilaginous Part of a Fiſh, whoſe Back is full of little white Scales that are prickly and ranged in Order, commonly found in the *Muſcovy* Seas; which is the Reaſon that almoſt all the *Iſinglaſs* we have from *Holland*, is brought thither from *Archangel*, where is kept a famous yearly Fair. Several who have writ of this Fiſh whereof they make the *Iſinglaſs*, and among others, *Rondelet*, have ſaid that it has no Bone, which is the Reaſon why it is called the Fiſh without Bones. They have pretended alſo, that it has no Prickles, which is very wide of the Truth, becauſe the Back of it is ſo well furniſhed with them, that there is not any Fiſh, how ſtrong ſoever, will dare to bite it; the Scales, though they are ſmall, are very ſharp, as repreſented in the Cut, which I had engraved from the Original which I have in my Hands. The Antients imagined, that it was of the cetaceous Kind, that is to ſay, that it reſembled in Nature and Bulk, the Whale or Dolphin, becauſe the Head is very thick, heavy, and large, the Mouth very long and open, and that there grows to the Upper Jaw a certain long Excreſcence, hanging down like a Beard. As to the Fleſh, it is ſweet and gluey, and conſequently of little Reliſh, if it be not ſalted ſome Time before it is eat. *Pomet.*

32
The Ising-glass Fish



The Silurus.



33

The Sea Vnicorn





As to the Manner of making the *Iſinglaſs*, the ſinewy Parts of the Fiſh are boiled in Water, till all of them be diſſolved that will diſſolve; then the gluey Liquor is ſtrained, and ſet to cool. Being cold, the Fat is carefully taken off, and the Liquor itſelf is boiled to a juſt Conſiſtency, then cut into Pieces, and made into a Twiſt, bent in Form of a Creſcent, as commonly ſold, then hung upon a String, and carefully dried. That which is cleareſt and whiteſt is beſt; and which being boiled in Water and Milk, will almoſt all diſſolve. It is chiefly made in *Muſcovy*; and that which is called the Patriarch Sort, which is four ſquare, very thin and white, almoſt tranſparent, is the choiceſt; the next is the *Czar's* Sort, which is the large Horſe-ſhoe, or twiſted Kind, that is in thin Rags, and clear; a meaner Sort is that which is yellow and brown within; and that in ſquare Books or Cakes, is the worſt of all.

The Uſe of *Iſinglaſs* is very common in *France*, but not in Phyſick; for I believe, beſides what is uſed in making the *Diachylon* Plaiſter, that all the Apothecaries in *Paris* ſcarce uſe a Pound in the Year: But it ſerves the Wine-Merchants and Vintners, who uſe it to fine their Wines, for which formerly they were blamed, though without Reaſon. For it is a very great Error that has been received, that *Iſinglaſs* was a poiſonous Drug, when nothing is ſo certain as that it has no ill Quality whatſoever; but the Fiſh from whence it is made is one of the principal Foods of *Muſcovy*, the Jelly being very wholeſome; the Fleſh of the Back of this Fiſh taſtes like Veal, and is very nouriſhing; the Belly eats like Pork, being very ſweet and good. *Iſinglaſs* is of a healing and ſtrengthening Property; uſed in Broth and Jellies, it ſtrengthens the Back, ſtops a Dyſentery and continued Purging. It is good in *Gonorrhœa's*, and the *Fluor albus*. Being of an alcalious Nature, it abſorbs Acids, and eaſes the moſt inveterate Pains of the Stomach. The neceſſary Uſes to which this is put, are in ſeveral Sorts of Silk Works, to give a Luſtre to Ribbons and other Silks, and to whiten Gauzes. It is a principal Ingredient in the counterfeit Oriental Pearl. We have from *England*, *Holland*, and other Parts, a ſort of *Iſinglaſs* folded in little Books, that is of ſmall Uſe in *France*, becauſe it is very hard to diſſolve, and never white. Some Perſons have aſſured me, that it was made of the Remainder of that which is made in little Wreaths; and others will have it, that it comes from the mucilaginous Parts of a Fiſh ſome Authors call *Silurus*, or *Sturio*, the *Sturgeon*, which it a very ſcarce Fiſh in *France*. It is ſometimes to be met with in our Rivers; but becauſe of its Rarity, and its being excellent Meat, thoſe who find them ſell them for three or four Hundred Livres.

Ichthyocolla, *Iſinglaſs*, or *Fiſh-Glue*, is a Paſte or Glue made of the Skin, Fins, Tail, Entrails, Sinews, and other mucilaginous Parts of a great Sea-Fiſh, called *Huſo*, or *Exoſſis*, from being without Bones, that is twenty-four Feet long, and weighs four Hundred Weight. It is uſually met with in the Seas about *Muſcovy*, in *Hungary*, and other Parts of the *Danube*. They make the *Iſinglaſs* by cutting all theſe Parts of the Fiſh in Pieces, which they ſteep in hot Water, and then let it boil over a gentle Fire till it is diſſolved, and reduced into a Jelly. They ſpread this upon Inſtruments made for the Purpoſe, that it may dry, and be made into a Kind of Parchment. When it is almoſt dry, they uſually roll it up into Wreaths of different Shapes and Sizes. The *Dutch* furniſh us with almoſt all we uſe. *Lemery.*

[The *Iſinglaſs* Fiſh is the *Ichthyocolla*. *Rond. De Piſc.* 2. 177. *Raii Ichthiogr.* 244. *Huſo Ichthyocolla*. *Schrod.* 5 329. It is caught in the *Danube*, *Volga*, and other great Rivers; but it is to be obſerved, that *Iſinglaſs* is not made from this Fiſh only, great Quantities of it being alſo boiled from the *Huſo Germanorum*; a Fiſh very different from this, though generally confounded with it. The *Iſinglaſs* is unqueſtionably the beſt, as well as moſt ſafe, and innocent thing uſed in purifying Wines; and in Medicine it is admirable in all Diſorders that ariſe from too thin and ſharp a State of the Fluids.]

33. *Of the* Narwal, *or* Sea Unicorn.

THE *Narwal*, ſo called by the *Iſlanders*, and by ſome others, *Rhoar*, by us the *Sea Unicorn*, is a large Fiſh, which ſome reckon to be a Sort of Whale; it is found plentifully in the Northern Seas, eſpecially along the Coaſt of *Iceland* and *Greenland*. This Sea-Monſter carries at the End of his Noſe a white weighty Horn, that is ſmooth, and of a ſpiral Figure. It is of different Sizes and Weight, as may be ſeen in the Cabinets of the Curious; as that of Mr. *Morin*, Phyſician to the late Mademoiſelle *de Guiſe*, which I have ſeen and handled, and which is repreſented in the Figure. And Mr. *Charas* told me, he had one longer and thicker than that in the Treaſury of *St. Denis*. They are the Pieces of this Horn, that we ſell at *Paris*, as they do elſewhere, for the true Unicorn's Horn, to which ſome People aſſign large Virtues, which I ſhall neither authorize nor contradict, having never had ſufficient Experience of it. *Pomet.*

There is another Fiſh beſides, that they give the Name of the *Sea Unicorn* to, which is met with in different Parts of the World. Mr. *Dumantel* ſays he ſaw a prodigious one, in an Iſle near *St. Domingo*, in the Year 1644. This *Unicorn*, ſays he, purſued a ſmaller Fiſh with that Violence, that he threw himſelf out of the Depth of Water neceſſary to ſwim in, and ran himſelf upon a great Bed of Sand, where half of his Body being uncovered, he could not recover himſelf to get into the Deep again, and by that means the Inhabitants of the Iſland took him. This Fiſh was about eighteen Foot long, and of the Thickneſs of an Hogſhead. About the Middle he had ſix great Fins, that at the Ends were like Oars; two of them were placed inſtead of Ears, and the other four along the Belly, at equal Diſtance, being of a Vermillion Colour; and all the Body was covered with large Scales, as big as a Crown Piece, which were of a Blue, that appeared to be ſpangled with Silver. Near the Neck the Scales were browniſh, more compact and cloſe, and made a ſort of Collar; the Scales under the Belly were yellow: The Tail was forked, the Head a little thicker than that of a Horſe, and almoſt of the ſame Shape; it was covered with a hard brown Skin. And as the *Unicorn* has a Horn on the Forehead, this *Sea Unicorn* has one perfectly fine, nine Feet and an half long, that ſtands directly on his. It is exactly ſtraight, and grows taper from the Front of the Head, or Baſis of the Horn, to the Tip, where it is ſo ſharp, that with Force it will drive through the hardeſt Body. The thick End was about ſixteen Inches Circumference; and from hence to about two thirds of this wonderful Horn, it was faſhioned like the Screw of a Preſs, or rather waved in Form of a twiſted Column, ſaving that the Furrows were ſtill leſſened until they became altogether ſmooth about four Feet two Inches from its Original. The Bottom was covered with an aſh-coloured Skin, that had on it a little ſhort Hair as ſoft as Velvet, of a Fillemot Colour, but underneath was as white as *Ivory*. As to the other Part that appeared altogether bare, it was naturally ſmooth, and of a ſhining black, marked with ſome fine white and yellow Streaks, and ſo hard, that a good File could ſcarcely touch it. The Creature had no Ears erected, but two great Gills, as other Fiſh; the Eyes being of the Size of an Hen's Egg. The Apple of the Eye was of a Sky-blue, enamelled with Yellow, and ſurrounded with a Vermillion Circle, that was ſucceeded by another very clear one, that ſhone like Cryſtal. The Mouth, like that of the Horſe, was cleft and ſet with ſeveral Teeth; thoſe before being ſharp; and the others in the Jaws behind large, and raiſed with little Bunches. The Tongue was of a proportionable Length and Thickneſs, which was covered with a rough red Skin.

This prodigious Fiſh had, beſides, upon its Head, a kind of Crown raiſed above the reſt of the Skin two Inches or thereabouts, made in an oval Form, and ending in a Point. Above three Hundred People of the Iſle eat plentifully of the Fleſh of it, and found it very delicate. It was larded with a white Fat; and being boiled, it parted into Flakes like Cod Fiſh, but had a much more ſavory Taſte.

The Head and Horn of this Fiſh were preſerved ſome Time in that Iſland, but being afterwards made a Preſent to a curious Perſon, the Ship in which he was bringing them over was loſt, and in it this precious Rarity.

We ought to undeceive thoſe who believe that what we now call the *Unicorn's Horn*, the *Latins*, *Unicornis*, and the *Greeks*, *Monoceros*, is the Horn of a Land Animal, whereof mention is made in the *Old Teſtament*, ſince it is nothing elſe but the Horn of the *Narwal*, which, as to the Choice of it, ought to be the whiteſt, largeſt, and heavieſt. Some Time ago theſe Horns were ſo rare, that Mr. *Racq*, a Phyſician at *Florence*, ſaid that a *German* Merchant ſold one of them to a Pope for 4500 Livres, which is very much different from what they are at preſent, ſince we can buy the very fineſt at a much eaſier rate.

Narwal, *Rhoar*, or the *Sea Unicorn*, is a very large Fiſh, that carries upon his Front a Horn of five or ſix Feet long, that is heavy, white, ſmooth, and twiſted, being of a ſpiral Figure, and hollow within, very like Ivory. He carries this for his Defence, and with it will attack the biggeſt Whales. This Horn affords a great deal of volatile Salt and Oil; is cordial, ſudorifick, and proper to reſiſt Infections, and cure Epilepſies. The Doſe is from half a Scruple to two Scruples. They wear it alſo in Amulets hung about the Neck, to preſerve them from infectious Air. Thoſe who keep theſe for Curioſities, have the Horn entire, and chuſe the longeſt and moſt weighty. *Lemery.*

[The *Narwal* and *Unicorn's* Horn I have already ſpoken of in the Chapter of the *Unicorn*.

As to this other Kind, I am afraid Mr. *Dumantel's* Story is too ſtrange to be true, no Author of any Credit having ever ſeen or mentioned any ſuch Fiſh.]

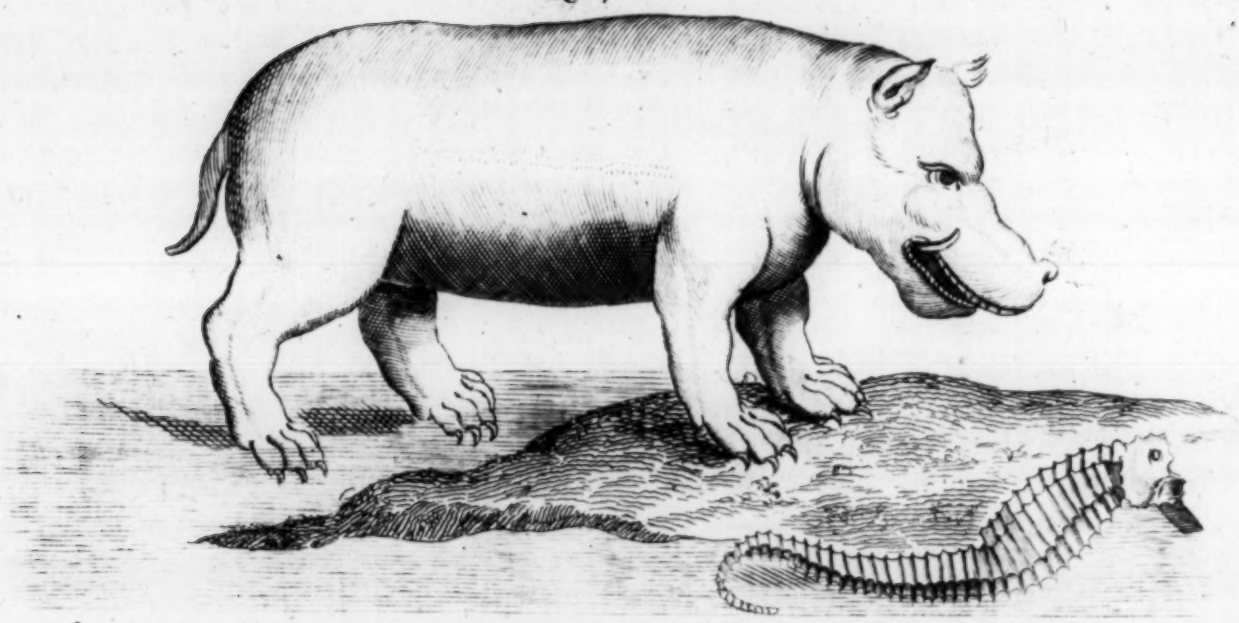
34. *Of the* Sea-Horſe.

THERE is in the Rivers *Nile* and *Pomet.* *Niger*, and others of *Africa*, an Ani-

mal

The Sea Horse.

34



The Whale





mal that has ſome Reſemblance to an Ox, which I thought proper to give you the Hiſtory of, upon Account of the Teeth which we ſell. This Animal has nothing of the Likeneſs of a Horſe; but as to his Size rather looks like an Ox, and his Legs are like the Bear's. He is about thirteen Feet long, and four Feet and an half broad; and three Feet and an half high from the Belly, which is rather flat than round; the Legs are three Feet about, and each Foot is a Foot broad, the Head is two Feet and an half in Breadth, three Feet long, nine Feet about, and looks very thick in reſpect of the reſt of the Body; the Mouth is a Foot wide, the Noſe is fleſhy, and turns up; the Eyes are ſmall; the Ears little and ſhort, not above three Inches long; the Hooſs are cleft into four Parts, and the Tail is like that of a Hog; the Noſtrils are winding, and about two Inches and an half deep, the Muzzle has ſome Reſemblance to that of the Lion or Cat, and is hairy, though there is no Hair upon the reſt of the Body. It has ſixteen Teeth in the Under-jaw; and the two which are at the End are half a Foot long, and two Inches and an half broad, and half a Foot thick; on each Side one may alſo ſee ſeven Grinders that are ſhort, but thick; it has alſo as many in the Upper-jaw, which it moves as the Crocodile: Its Teeth are as hard as a Flint Stone. The Antients believed that this Animal emitted Fire when he ground his Teeth one againſt the other.

The *Æthiopians*, and other People of *Africa*, eat the Fleſh of them; and they are an amphibious Creature, living both on the Land and in the Water. Father *Vandenbrock* ſays he ſaw four Sea Horſes feeding in the Country of *Lavango*, during his Journey to *Angola*, which were like huge Buffalo's; their Skins were very ſhining; their Heads like a Mare's; their Ears ſhort, and their Noſtrils large; having two Tuſhes in their Mouths like the Boar's. Of all the Parts of this Animal, there is nothing uſed in *France* but the Teeth, with which, by reaſon of their Whiteneſs and Hardneſs, they make artificial Teeth for People who have loſt them. Though *Matthiolus* ſays, that the Aſhes of the *Hippopotamus*, or Sea-Horſe, incorporated with Tar, or other fat Body, will make the Hair grow. The Tooth worn, or a Ring made thereof, helps the Hemorrhoids, and eaſeth the Tooth-ach. A Ring made of the Pizzle, and worn, is ſaid to cure the Cramp. And the Teſticles have the Virtue of *Caſtor*.

Lemery.

Hippopotamus, or the *Sea-Horſe*, is a four-footed Animal, as big as an Ox. The Head is very thick, reſembling omre that of a Calf than a Horſe; the Mouth is a Foot long, and the Jaws ſet with ſtrong hard Teeth, that will ſtrike Fire like a Flint with Steel, and are very proper to make artificial Teeth with. Theſe Creatures delight to live in the large Rivers within Land, that they may enjoy both Land and Water, feeding upon Fiſh, Fleſh, Plants, Pulſe, and even Men, Women, and Children, if they can meet with them. The Skin is ſo thick, that it is able to defend from all manner of external Violence, no Bullet or Spear being able to pierce it; the Aſhes whereof take away Spots from the Skin; and the Fat, applied to the Pulſe or Stomach, relieves againſt Fits of the Ague, and is emollient and nervous.

[The *Quadruped*, called the *Sea-Horſe*, is the *Hippopotamus*. *Jonſ. De Quad.* 67. *Raii Synopſ. Animal.* 123. *Mont. Ex.* 5. The Teſticles and Teeth of this Creature have had many Virtues aſcribed to them, but are never uſed at preſent.

The other Sea-Horſe, as it is called, which is often kept by the Druggiſts, and hung up as a Curioſity in the Shops of Country Apothecaries; and which our Author has figured in the ſame Plate with the former, though he has given no Account of it, is the *Hippocampus*, *Rond. De Piſc.* 2. 114. *Raii Icthiogr.* 157. *Bellon. De Aquatil.* 446. It is an odd ſhaped little Fiſh, caught in the *Mediterranean*. It is the Aſhes of this, and not of the *Hippopotamus*, which *Dioſcorides* recommends, mixed with Tar, to make the Hair grow.

It has alſo been ſaid to be a Remedy for the Bite of a mad Dog, but at preſent it is never uſed.]

35. *Of the* Sea-Cow.

Pomet.

VACCA Marina, *Manati*, or the *Sea-Cow*, according to the Relation of Father *Du Tertre*, is a Fiſh altogether unknown in *Europe*. It is ſometimes from fifteen to ſixteen Feet long, and ſeven or eight Feet about; it has the Muzzle of an Ox, and the Eyes of a Dog. The Sight is very weak, and it has no Ears, but in their ſtead two little Holes, whereinto one could ſcarcely put a Finger; by theſe Holes it hears ſo exquiſitely, that the Weakneſs of the Sight is ſufficiently ſupplied by the Quickneſs of the Hearing. Under the Belly, next the Head, are two little Feet in form of Hands, having each four ſhort Fingers and Nails, and therefore it was by the *Spaniards* called *Manati*, which is to ſay, the Fiſh with Hands. From the Navel it grows leſs and leſs, till it forms the Tail, which is in the Shape of a Baker's Peel. It is a Foot and an half broad, five or ſix Inches thick, clothed with the ſame Skin as the Body, and entirely made up of Fat and Nerves. This Fiſh has no Scales like other

other Fiſh, but is covered with a Skin thicker than that of an Ox; the Hide is of a very brown Slate Colour, like that of the *Sea-Wolf*. The Fleſh taſtes like Veal, but it is a great deal finer, and covered, in ſeveral Parts, with three or four Fingers thick of Fat, of which they make *Lard*, as they do of Hog's. This is excellent, and ſeveral People melt it and caſt it into Cakes, which they eat with Bread inſtead of Butter.

The Fleſh of this Animal being ſalted, loſes much of its Taſte, and becomes as dry as Wood; but I believe that muſt be attributed to the Salt of the Country, which is very corroſive They find in the Head of this Animal four Stones, two large ones, and two ſmall ones, to which they aſſign the Property of diſſolving the Stone in the Bladder, and bringing away of Gravel from the Kidneys; but I cannot approve this Practice, ſince this Medicine is too emetick, and acts upon the Stomach with too much Violence. The Food of this Fiſh is a ſmall Herb that grows in the Sea, which it feeds upon as the Ox does on thoſe of the Field; and after having glutted itſelf with eating, it hunts out for the freſh Water up the Rivers, where it drinks plentifully twice a Day. After having eat and drank its Fill, it lies ſleeping, with the Snout or Muzzle half out of Water, whereby it is diſcovered at a good Diſtance by the Fiſhermen, who preſently ſet about to take it after the following Manner:

Three or four Men, or ſometimes more, take a little *Canoe*, which is a ſmall Boat, all of a Piece, hollowed out of a Tree, in Shape of a Shallop: The Rower is upon the Stern of the *Canoe*, where he ſo manages the Flat of his Oar, moving it in the Water, as not only to direct the *Canoe*, but to move it forwards ſo ſwift, as if carried by a Sail before the Wind. The Spear-man, which is he that ſtrikes the Beaſt, ſtands upright on a little Plank, at the Head of the *Canoe*, holding the Spear in his Hand, which is a Sort of Pike; at the End of which is fixed a Harping-Iron, or Javelin. The third ſits in the Middle of the Boat, to manage the Line or Cable, that is tied to the Harping-Iron, to draw when the Beaſt is ſtruck; they all keep perfect Silence, becauſe this Creature hears ſo exquiſitely, that a Word, or the leaſt Noiſe of the Water daſhing againſt the Boat, is enough to awake her, and put her to Flight, and diſappoint the Fiſhermen of their Hopes. It is diverting to ſee how the Spear-man trembles, as it were, for fear the Prize ſhould eſcape, and fancies the Rower, or Steerſman, does not employ half his Strength, though he does whatever he can with his Hands, and keeps his Eye fixed on the Spear, by the End of which the Spear-man points out the Tract he muſt keep, to come at the Place where the Fiſh lies faſt aſleep. When the *Canoe* is within three or four Paces of it, the Spear-man gives a Stroke with all his Strength, and darts the Iron at leaſt half a Feet into the Fleſh; the Shaft falls upon the Water, whilſt the Iron Head remains ſticking in the Breaſt, which is now half taken. When this Animal perceives herſelf ſo violently ſtruck, ſhe muſters up all her Strength, and makes uſe of it to eſcape; ſhe bounds like a Horſe broke looſe, cuts the Waves, as an Eagle does the Air, and makes the Sea foam, covering it with white all the Way through which ſhe paſſes, believing the while ſhe is eſcaping from her Enemy, whom notwithſtanding, ſhe carries along with her; inſomuch that one would take the Spear-man for *Neptune* drawn in Triumph by a Sea Monſter. In ſhort, after having thus, for ſome time, drawn her Deſtruction after her, and loſt a great Share of Blood, her Strength fails her; and being as it were brought to Bay, ſhe is forced to ſtop ſhort to take a little Reſt; though ſhe no ſooner lies by, but the Spear-man, to bring himſelf nearer, draws the Line, and makes a ſecond Stroke with more Violence than the former, at which ſhe is able to make but ſlender Efforts, and in a little Time is reduced to an Extremity, and then the Fiſhermen eaſily enough drag her a-ſhore at the firſt little Iſland they come at, where they put her into the *Canoe*, if big enough to hold her. The Female of this Species has two young ones at once, and has under her Belly two Teats which they ſuck; the young always follow the Dam ſo cloſely, that when they catch her they are alſo ſure of them. The Fleſh of this Animal makes a conſiderable Part of the Food of the Inhabitants of thoſe Countries: They carry ſeveral Ship-Loads of it every Year from the *Terra firma*, and the neighbouring Iſles; and as well at *Guadaloupa*, *St. Chriſtopher's*, *Martinico*, as other adjacent Iſlands, they ſell a Pound of it for a Pound and a half of Tobacco.

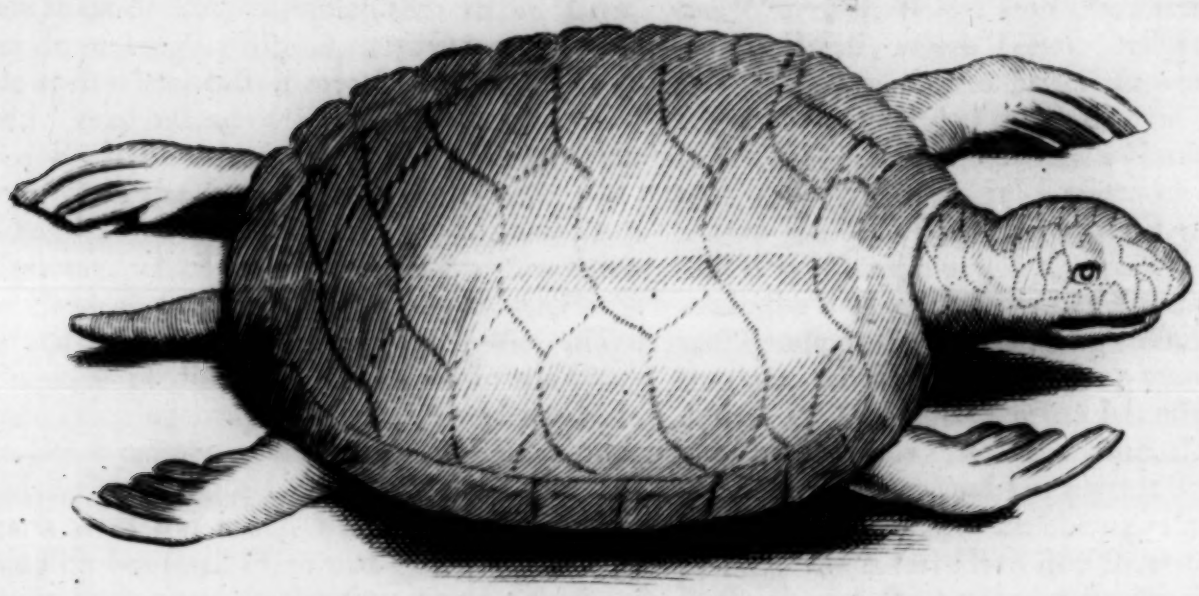
The Stone taken from this Animal has many medicinal Uſes aſſigned to it, and was a Thing unknown to the Antients. It is a whitiſh Stone, or rather a Bone taken out of the Head that is white and hard; ſometimes like a Tooth, and ſomewhat reſembling the whiteſt Ivory, but much harder. It is a fixed *Alcali*, abſorbs Acids, eaſes the Pain of the Stomach, cures Heart-burnings and the Cholick; is good againſt Stone and Gravel, and to expel Urine. The Powder is made by Levigation, and is given from a Scruple to a Drachm. The Calx is made by calcining it either alone, or with Sulphur and Nitre. Doſe from half a Drachm to a Drachm, in any appropriate Liquor.

Manati

of Animals.

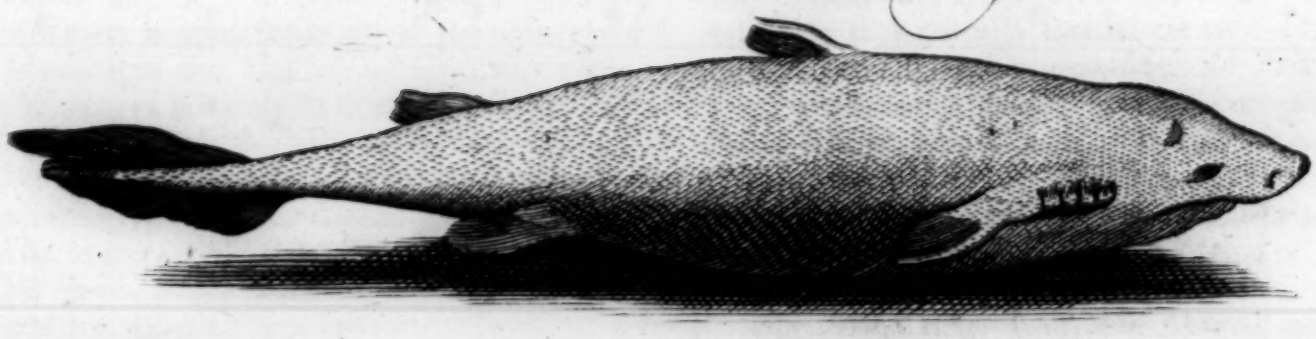
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The Sea Tortoise.

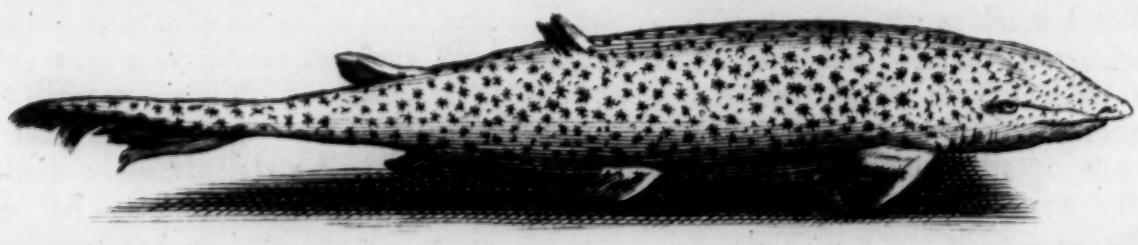


37

The Sea Dog.



The Rouſette.



Manati, vel Vacca Marina, the *Sea-Cow*, is a large Fiſh of *America*, of fifteen or ſixteen Feet long, almoſt round, being five or ſix Feet Diameter, of a frightful Figure. The Head is like a Calf's, but the Snout is more meagre, and the Chin thicker; the Eyes are ſmall, and require a great Light, for the Sight is very weak; the Ears are nothing but two little Holes, though the Hearing is very fine. The Skin is uſed to make Shoes of; the Fat or Lard, beſides that the Inhabitants eat it for Butter, is a good Emollient, and diſcuſſing Unguent. The Stones taken out of the Head, which are of two different Sizes, are reckoned emetick; though they are given inwardly in Powder, to twelve Grains and upwards, for nephritick Pains, and Stone in the Kidneys and Bladder.

Lemery.

[The *Sea-Cow* is the *Manati Indorum*, *Ald. De Piſc.* 728. *Manati Phocæ Genuſ. Cluſ. Evot.* 132. *Manati ſeu Vacca Marina. Raii Syn. An.* 193. It is an amphibious Creature, and feeds on Vegetables.

The Stone of the Head, as it is called, is the *Os Petroſum*, which has been greatly commended, but it is at preſent never uſed.]

36. *Of the three Kinds of* Tortoiſes, viz. *The Frank or True* Tortoiſe, *the* Kaouanne, *or Great-headed* Tortoiſe, *and the* Caret, *or Leaſt* Tortoiſe.

THE Figure which I have given of the *Tortoiſe* is ſo exact, ſays the Reverend Father *Du Tertre*, that it would be loſing of Time to give any Deſcription of its Shape; and I ſhall think it ſufficient to deſcribe what is peculiar to thoſe of the Iſles, and what diſtinguiſhes them from the *European* Sort. We may ſay in general of the three Sorts of *Tortoiſes*, that they are dull, heavy, ſtupid Animals, and almoſt without Brains; for in all the Head, which is as big as a Calf's, there is not found above the Bigneſs of a ſmall Bean of Brain: Their Sight is excellent; their Bulk ſo large, that the Shell they carry on their Backs is ſometimes five Feet long, and four broad: Their Fleſh, particularly that of the *Frank Tortoiſe*, is ſo like that of an Ox, that a Piece of *Tortoiſe* compared with a Piece of Beef, cannot be diſtinguiſhed but by the Colour of the Fat, which is of a yellowiſh green. There are of theſe *Tortoiſes*, which taken from the Bone yield half a Barrel of Proviſion, without taking in the Head, the Neck, the Feet, the Tail, the Guts, and the Eggs, which are ſufficient to feed thirty Men. Beſides which, they make from the ſuperfluous Fat, fifteen or twenty Pots of Oil, which is as yellow as Gold, excellent for frying withal, and all ſorts of Sauces, eſpecially when new; for when old it is fit for nothing but Lamps. The Fleſh of the *Tortoiſe* is ſo full of vital Spirits, that being cut in Pieces over Night, it will ſtir the next Day.

Pomet.

I believed a long Time that the *Tortoiſes* of theſe Parts had three Hearts; for from the upper Part of the Heart, which is as large a Man's, proceeds a large arterial Trunk, to which are joined two other, as it were, Hearts, on eace Side one, about the Size of an Hen's Egg, and of the ſame Shape and Subſtance with the former; though I have ſince changed my Opinion, and believe firmly that they are nothing but the Ears of the Heart; yet be that as it will, 'tis certain that when rightly diſplayed upon a Table, it makes the Reſemblance of a *Fleur-de-Lis*, which may be reckoned a good Omen of the future Succeſs of the *French* Colonies in *America*, ſince the Providence of God, which does nothing in vain, has planted, as it were, the *Fleur-de-Lis* in the Heart of this Animal, as the Hieroglyphick of this Country.

Of the Kaouanne, *the* Loggerhead, *or Great-headed* Tortoiſe.

This differs from the true *Tortoiſe*, in that the Head is much larger, in Proportion to the Body, than that of other *Tortoiſes*; it is more miſchievous than the other Kinds, and defends itſelf with its Mouth and Feet when they are about to take or turn it: And though it is much the largeſt of the three Sorts, it is notwithſtanding the leaſt eſteemed, becauſe the Fleſh is black, of a Sea-Smell, and an ill Taſte. Thoſe who fiſh for it mix it with the true *Tortoiſe* to get a Price for it, but it communicates its ill Taſte to it. The Oil made from it is acrid, and ſpoils the Sauces with which it is mixed, and is only uſed when the other cannot be had: However, it is not altogether uſeleſs, becauſe it ſerves to burn in Lamps.

Sometime after the Shell of this Kind of *Tortoiſe* is taken off, when the Cartilages begin to rot, there fly off from it eight Flakes much larger than thoſe of the Caret, but thinner and marbled with black and white. They are uſed in ſome Kinds of Work, and if they were thicker, would vye with the Caret Shell.

Of the Caret, *or Small* Tortoiſe.

The *Caret* is the leaſt of all the three Kinds of *Tortoiſes*. The Fleſh of it is not ſo good as that of the *Frank Tortoiſe*, but is a great deal better than that of the *Kaouanne*; the Oil drawn from it is excellent for Weakneſs of the Nerves, *Sciatica*

tica Pains, and all cold Defluxions. I know Perſons who have found it very uſeful for Diſeaſes of the Kidneys, cauſed by over-ſtraining, *&c.* but that which makes it particularly valuable, is the Shell upon its Back, that is worth ten Shillings a Pound. What they take of this from the *Caret* conſiſts of thirteen Leaves or Plates, eight of which are flat, the other five hollow or bending; of the flat there are four large ones, which are a Foot long, and ſeven Inches broad. The fine *Caret Tortoiſe* Shell ought to be thick, clear, tranſparent, of the Colour of Antimony, and marbled brown and white. There are of them that bear ſix Pounds of Flakes of this Shell upon their Backs; they make Combs and other fine Works of them, that are very beautiful and valuable. The Way of raiſing the Flakes from the large Shell, which is properly the *Tortoiſe's* Houſe, is by making, when all the Fleſh is taken out, a Fire underneath; and as ſoon as the Heat affects the Flakes, they are eaſily raiſed with the Point of a Knife.

Teſtudo, the *Shell-Fiſh*, or *Tortoiſe*, is an aquatick four-footed Animal, that is very ugly in all its Limbs, but covered with a fine large Shell, ſmooth, hard, bony, oval, and marbled, or ſtained with ſeveral Colours. This Creature may be reckoned amphibious, living upon Land and in the Water. There are different Sizes of them; but thoſe in *America* are often met with of five Feet long, and four Feet broad; their Fleſh is good Food, and has the Taſte of Beef, and yields a yellow Oil, very proper for the Lamp. The *Europeans* uſe the *Tortoiſe* Fleſh in their Kitchens as good Meat. They abound with a great deal of volatile Salt and Oil, are proper for Diſeaſes of the Breaſt, and Conſumptions; and are very reſtorative being eaten in Subſtance, or elſe the Broth of the Fleſh. The Blood dried, is eſteemed in epileptick Fits; the Doſe being from twelve Grains to a Drachm. *Lemery.*

The Way of Fiſhing for the Tortoiſe.

There are three Ways of *Tortoiſe* Fiſhing, *viz.* in coupling Time, with the Spear, and when they come aſhore. The *Tortoiſes* begin to couple in *March*, and continue it till the Middle of *May*. I ſhall not take Notice of all the Circumſtances that relate to this; it will ſuffice to ſay, that it is done on the Water, ſo that they are eaſily diſcovered; and they are no ſooner perceived, than two or three People throw themſelves preſently into a *Canoe*, make towards them, and come at them with Eaſe. They ſlip a Nooſe around their Neck, or one of their Feet; or, having no Line, they lay hold of them with their Hand, by the Neck, where it is uncovered by the Shell; ſometimes they take both of them together, but moſt commonly the Female eſcapes, and the Males at that Time are very lean and hard Meat, but the Females very good. *Pomet.*

The Spear for the *Tortoiſe* is much of the ſame Sort as that for the *Sea-Cow*, only inſtead of the barbed Iron, a Piece of ſquare Iron of about half a Finger's Length, and very ſharp, is faſtened to the Top of the Spear, to which is tied a Line; the Spear being thrown at the Back of the *Tortoiſe*, the Iron Head is ſtruck half Way into the Shell, which being of a hard bony Subſtance, it ſticks as firm as if fixed in a ſolid Oak. The *Tortoiſe* perceiving himſelf ſtruck, makes the ſame Struggle to get looſe as the *Sea-Cow*, and the Spear-man uſes the ſame Diligence to take him. Some ſay that the Force abates proportionably to the Blood that is loſt; but they are ignorant that the *Tortoiſe* does not loſe a Drop of Blood at the Place where it is wounded, 'till the Iron is taken out.

The Time of taking the *Tortoiſe* upon Land is from *April* to *Auguſt*; for at that Time the *Tortoiſe* perceives the Inconvenience of its Bulk by its own Weight and great Quantity of Eggs, which are ſometimes above two Thouſand, and being forced by a natural Neceſſity, ſhe quits the Sea, during Night, and comes to find out upon the Shore a proper Place to lay her Burthen in, or at leaſt ſome Part of it; and having found out one convenient for this Purpoſe, which is always a Heap of Sand, ſhe contents herſelf that Night, in only taking a View of the Place, and retires gently into the Sea again, leaving the Buſineſs to be done the Night following, or very ſpeedily; all the Day ſhe feeds upon the Plants growing on the Rocks in the Sea, without being far diſtant from the Place where ſhe is to lay her Burthen.

The Sun being upon the Declenſion, they may be ſeen drawing near to Land, and watching here and there, as if they miſtruſted an Ambuſcade: And as their Sight is very piercing, if they perceive any Body on the Shore, they will ſeek out for another Place wherein they have more Confidence; but if they ſee no Body, they come aſhore when it is dark. After having obſerved all Sides with great Diligence, they begin to work and dig in the Sand with their fore Feet, making a round Hole of a Foot broad, and a Foot and a half deep; which being made, they lay therein two or three Hundred Eggs, as big and round as a Tennis-Ball. The Egg-Shells are ſoft as wetted Parchment; the White will not boil hard at all, though the Yellow hardens eaſily. The *Tortoiſe* remains above an Hour in laying her Eggs; and during that Time a

Coach




38
The Tunney or Spanish
Mackrell

Coach might drive over her Body, and ſhe not ſtir from the Place. Having diſcharged her Burthen without Interruption, ſhe covers the Hole ſo dexterouſly, and throws the Sand about every where ſo naturally again, that it is extremely difficult to find the Eggs: That being done, ſhe leaves them, and returns to the Sea. The Eggs are hatched in the Sand in about forty Days Time; at the End of which the little *Tortoiſes*, being as big as young Quails, make ſtrait to the Sea, without being ſhewn the Way. Thoſe that are taken by the Way, they fry whole, and ſo they are delicious Meat.

[The Kinds of *Tortoiſe* of which any Part is uſed in Medicine, are the Land *Tortoiſe*. *Teſtudo terreſtris vulgaris Raii Synopſ. An.* 243. *Teſtudo terreſtris Jonſ. de Quad.* 144. *Aldrov. de Quad. Ovip.* 705. The Blood of this kind is eſteemed good in Hectics and Epilepſies.

2. The *Turtle*, or *Sea Tortoiſe*, *Teſtudo marina vulgaris Raii Syn. Anim.* 254. *Teſtudo marina Ald. de Quad. Ov.* 712. *Jonſ. de Quad.* 147. The Gall of this Species is eſteemed good in Diſtemperatures of the Eyes, and the dried *Penis* in the Stone.

And, 3. The Freſh-water *Tortoiſe*. *Teſtudo aquarum dulcium et lutaria. Raii Syn. An.* 254. *Teſtuda aquæ dulcis et lutaria. Aldrov. de Quad. Ov.* 710. *Jonſ. de Quad.* 146. The Blood and Gall of this are ſaid to poſſeſs the Virtues of the former, but none of them are much uſed with us.]

37. *Of the* Sea-Dog.

Pomet. THE *Sea-Dog* is a pretty large Fiſh, that is found in ſeveral Parts, but eſpecially about *Spain*, and at *Bayonne*. Of all the Parts of this Fiſh, we deal in none but the Skin, which we ſell, becauſe of the great Service it is of to the Workers in Wood, as Turners, *&c.* being very proper to poliſh withal. The true *Dog-Skins*, to be fine, ought to be large and broad, of a rough Grain, not too large nor too ſmall, and ſupplied with Ears and Fins. The Brain of this Fiſh dried is very aperitive and good in the Gravel, and for Women at the Time of their Delivery; the Doſe is from a Scruple to a Drachm in White Wine.

We have beſides, from the *Lower Normandy*, the Skin of a Fiſh that is very like the *Sea-Dog*, and which they call *Doucette*, or *Rouſette*, the *Spotted-Fiſh*, which ſome Workmen uſe inſtead of the Dog-Skin, tho' there is a good deal of Difference, becauſe the Dog-Skin is very rough, and the *Rouſette* very little ſo; and beſides, the Dog-Skin is always brown, and the *Rouſettes* are of different Colours, and conſtantly ſpotted on the Back with ſmall Stars; they are alſo much leſs, which is the Reaſon why theſe Skins are very little uſed at *Paris*, and indeed ſcarce any where but in *Auvergne*. Thoſe two Kinds of Skins are alſo ſerviceable to other Tradeſmen, as Sheath and Caſe-Makers. We ſell likewiſe another Fiſh-Skin, which has no othe Uſe in *France*, *England*, and other Parts, than to make Knife Handles of.

Muſtelus, or *Galeus lævis*, is a Kind of *Sea-Dog*, which the *Italians* call *Peſce Columbo*; it is a Fiſh that weighs above twenty Pounds; it is covered with a Skin that has no Scales, that is ſoft to the Touch, and of a whitiſh Colour; it has no Teeth, but the Jaws are rough, and it feeds upon Fiſh. The Fat is reſolutive and emollient. *Lemery.*

There is another kind of Dog-Fiſh, which is called *Galeus Aſterius*, *ſive Muſtelus Stellaris*, or the *Star Dog-Fiſh*, that is like the former, only for the Spots upon it that are in the Form of Stars. The Virtues and Uſes of it are the ſame with the other. This Fiſh is called *Muſtelus*, as if you ſhould ſay, *Mus ſtellatus*, becauſe this Fiſh, in its Colour, ſomewhat reſembles that of a Mouſe or Rat, and every one of the Species are ſpangled with Stars.

[The Sea-Dog, or Hound-Fiſh, is the *Canis marinus aut Galeus. Schonef. Icth.* 29. *Galeus acanthias ſive Spinax. Raii Icthiogr.* 56. *Aldrov. de Piſc.* 399. The other kind, or *Starry Dog-Fiſh*, is the *Catulus major vulgaris. Raii Icth.* 62. *Canicula Ariſtotelis Rondeletio Aldr. L.* 3. *cap.* 34.

Their Skins are uſed by Artificers in different Kinds of Work, but I know of no Uſe that was ever made of either of them in Medicine.]

38. *Of the* Tunny-Fiſh.

THE *Tunny*, which the *Latins* call *Pomet. Thunnus*, is a pretty large, heavy, big-bellied Fiſh, which is plentiful in the *Mediterranean*, eſpecially about *Provence*, and at *Nice*, from whence comes what we ſell. There are likewiſe a great many of them upon the Coaſt of *Spain*. The Time of fiſhing for the *Tunny* is in *September* and *October*; and there are ſo many things peculiar therein, that it is by the Fiſhers generally ſhewn to Strangers. Theſe two Months are the Time when the *Tunny* runs from the grand Ocean into the *Mediterranean*, towards the *Levant*, as the *Anchovies* do. When the Month of *September* comes, they caſt into the Sea large Nets made of Ruſh Cords, which they call *Madragues*, which are divided as it were into ſeveral Partitions, of which the firſt is larger than

the others; ſo that the *Tunnies* entring the larger firſt, do not return till the Net is full, which it is in a ſmall Time, where the Fiſhery is good, as well from the Plenty of the Fiſh, as becauſe when one *Tunny* is gone in, the reſt follow in a Flock like Sheep. The Net being taken out of the Sea, the Fiſh die, not being able to live out of the Water; then they hang them up in the Air, open them, take out their Entrails, and take off the Head; and having cut them in Pieces, broil them on large Gridirons, and fry them in Oil Olive; and after having ſeaſoned them with Salt, Pepper, and Cloves, and ſome Bay Leaves, they put them into little Barrels, thus dreſſed, and ready to eat with freſh Oil Olive, and a little Vinegar, to tranſport into ſeveral Parts.

We have two ſorts brought to *Paris*, which have no other Difference but that ſome have the Back Bone taken out, and for that Reaſon are called *boned Tunny*, and are uſually put up in little white Wood Barrels, broad at the Bottom, and narrow at Top; that which has the Bones left in it is in little round Barrels. Chuſe both ſorts new, firm, well done in good Oil, and the Fleſh white like Veal. Its Uſe is very common in *Europe* and ſeveral other Parts of the World; as well becauſe it is always ready to eat, as becauſe it is of an excellent Taſte, like Veal. They commonly catch with the *Tunny* another Fiſh, which the *Provincials* call *Imperadro*, or *Emperor*, and Sea Hogs are alſo ſeen there; they are always two and two together; but as they are accuſtomed to leap out of the Water, they get out of the Nets and ſuffer not themſelves to be taken; it is wonderful to ſee how they leap both together in one Moment, and fall again into the Sea at once, as if they were tied together.

Thunnus, vel Thynnus, or the *Tunny*, *Lemery.* is a large, heavy, big-bellied Fiſh, which is found plentifully in the *Mediterranean* Sea, in *Provence*, *Italy*, and *Spain*. It is covered with large, ſmooth, ſtraight Scales, and eats Sea Wrack, and other ſort of maritime Food. The Fleſh is firm, very good to eat, being of a Veal Taſte, but is ſalted to prepare and keep it for Tranſportation, when it is called *Tunny*. It is very nouriſhing, and of good Juice, and yields a great deal of volatile Salt. It is reckoned proper to reſiſt Poiſon, againſt the Bite of a Viper, *&c.* being eat, and applied outwardly. This Fiſh is called *Thunnus*, from the *Greek* Word θύειν, to be carried with Impetuoſity, becauſe this Fiſh moves ſo ſwiftly.

[The *Tunny*, or *Spaniſh* Mackarel, is the *Thynnus ſeu Thunnus Raii Icthiogr.* 167. *Thunnus Aldr. de Piſc.* 112. *Orcynus Rond. de Piſc.* 1. 249. It is a good Food, and is much commended againſt venomous Bites, but I am afraid is but a feeble Remedy in Caſes of ſuch Conſequence.]

39. *Of* Anchovies.

BEſides the *Tunny*, we ſell *Anchovies*, *Pomet.* that come from the ſame Parts as the *Tunny*; and we have conſiderable Trade with them; we chuſe the leaſt and neweſt, white without, and red within, that are firm, and have round Backs, becauſe they pretend that the large and flat ones are Pilchers. When the Barrels are opened, the Pickle ought to be well taſted, and of a good Smell.

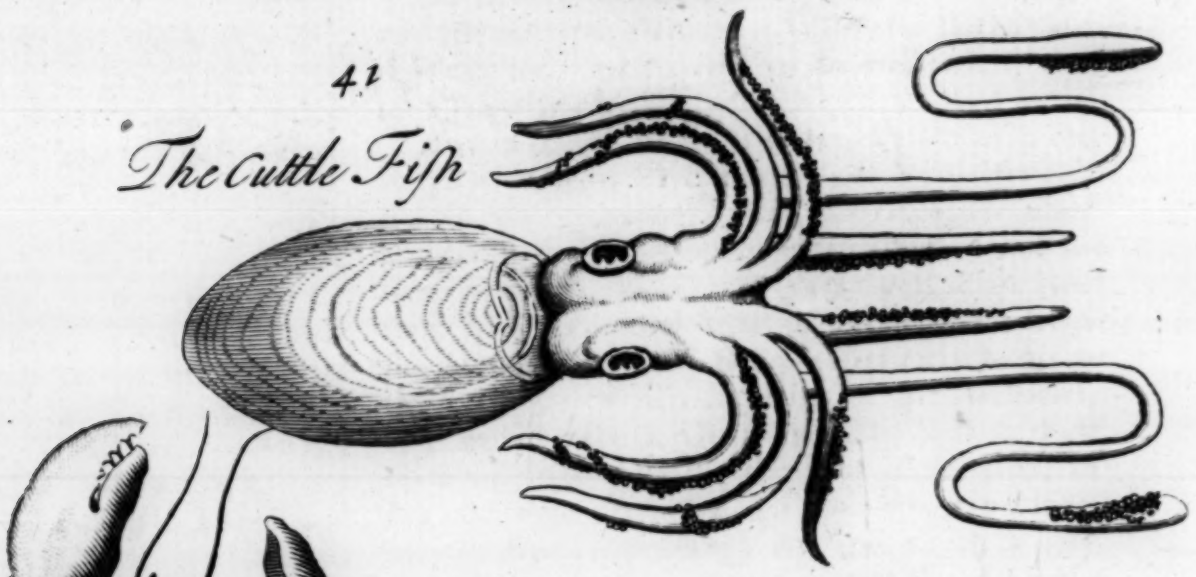
Anchovies are taken in ſeveral Parts, as in the River of *Genoa*, in *Catalonia*, at *Nice*, *Antibes*, *St. Tropez*, and other Places in *Provence*. They are taken moſt commonly in the Night, and always in *May*, *June*, and *July*, which are the three Months in the Year that they come from the grand Ocean into the *Mediterranean* to go to the *Levant*. When they fiſh for the *Anchovies*, and would take a Quantity, they light a Fire upon an Iron Grate at the Poop of the Ship, to the end that the little Fiſh following the Light, may be the eaſier taken; but that which is very remarkable in this Fiſhing, is, that the *Anchovies* that are taken by means of the Fire, are not ſo good, or ſo firm, nor will they keep ſo well, as thoſe which are taken without it. The Fiſhery being done, they tear from the Head the Gills, and other ſuperfluous Garbage; and this is the Difference betwixt them and the Pilchers, where they are left in; and not, as Mr. *Furetiere* ſays, becauſe of the Gall, which he, in his Book, takes notice of to be in their Heads. As to the manner of ordering them, they do nothing but range them in little Barrels of different Weight and Sizes, not weighing above five or ſix and twenty Pounds, in which they put a due Quantity of Salt with the Anchovies. We ſometimes, but very rarely, have dried Pilchers, prepared the ſame Way as red *Herrings*; but the little Conſumption there is of them gives no Encouragement to the Dealers to make any Demands for them. Being at *Royan*, a little Town of *Xaintogne*, where there are a great many Pilchers, ſeveral Fiſhermen aſſured me, that theſe Fiſh never ſwarm but in Shoals, and that under the Conduct of a King, or Captain, like the Bees.

Apua, ſive Aphya, or the *Anchovie*, is a little Sea Fiſh, as thick and long as one's *Lemery.* Finger, having a thick Head. The Eyes are broad and black; the Body of a ſilver white, and reddiſh within, and the Back round. They do not ſwim but in Companies, and cling faſt

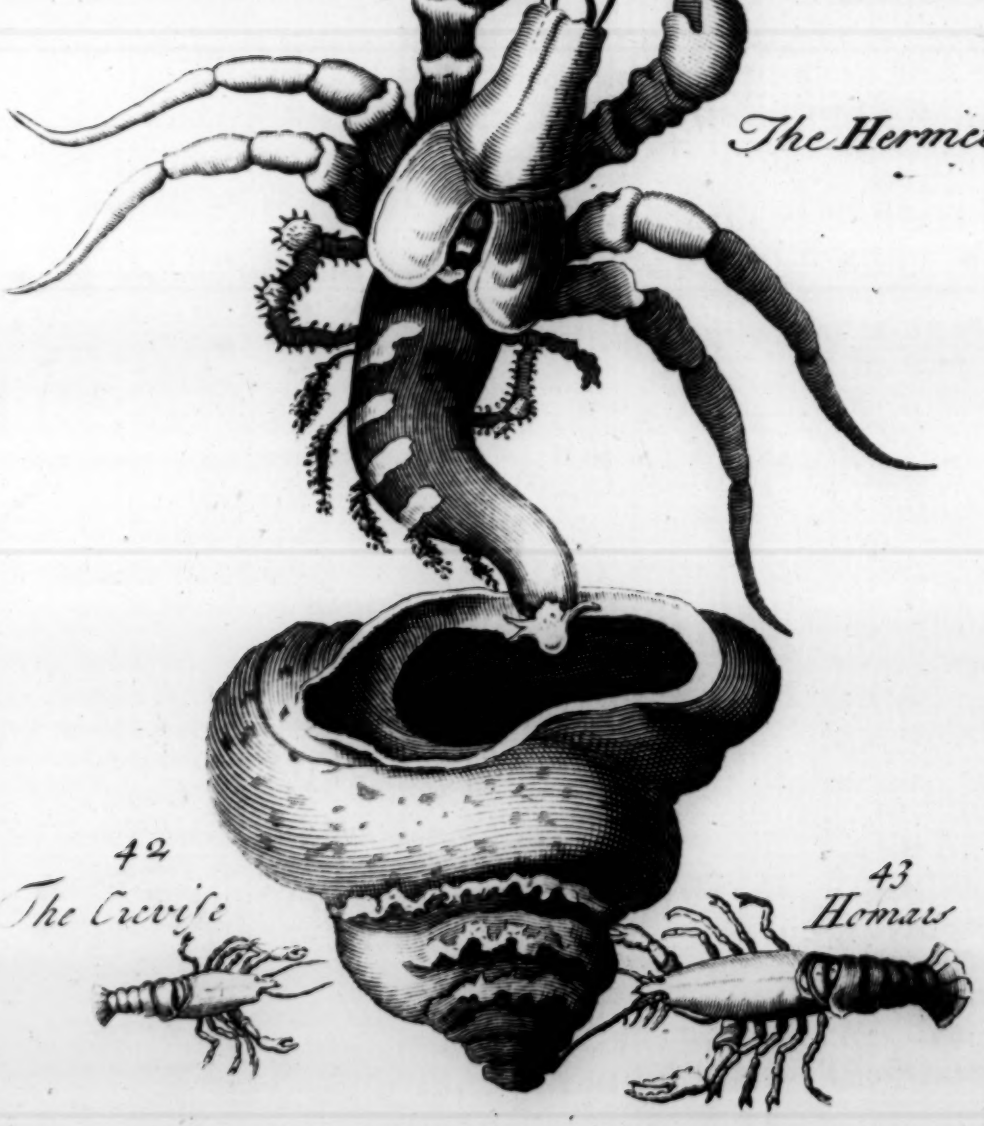
40
The Sea Hog.



41
The Cuttle Fish



The Hermet Fishe



42
The Crevise

43
Homar

faſt one to the other. Theſe Fiſheries are made in ſeveral Parts; and when the Fiſh are taken, they gut them, and take out of the Head what is apt to putrify, then ſalt them up in Barrels. The little *Anchovies* are valued more than the large ones. They contain in them a great deal of Salt and Oil. They are aperitive, and proper to raiſe the Appetite; but they ſerve more for Food than Phyſick. The *Sardin* is a kind of *Apua*, that is ſomething larger and flatter than the *Anchovy*, but not ſo well taſted. The *Melette*, or *Sprat*, is a little Fiſh they eat in *Languedoc*, and which partakes ſomething of the Nature of the *Apua*, which is the Name given in general to theſe little Fiſhes, and in particular to the *Anchovy*.

[The *Anchovy* is the *Encraſicolus Ald. de Piſc.* 214. *Rond. de Piſc.* 1. 211. *Raii Ictth.* 225. *Halecula Bellon. De aquat.* 169. *Encraſicholus quos alii Engraules, alii Lycoſtomos appellant, Rondelet. Geſn. de Aq.* 68.

Beſides the Uſe in Food, it is ſometimes laid to the Feet in Fevers; but whatever good ariſes from it, is more to be imputed to the Salt than the Fiſh, for the Heat of the Part will put the ſaline Particles in Motion, which, by vellicating the ſenſible Fibres, may very naturally occaſion a more than ordinary Derivation of the Fluids that Way.]

40. *Of the* Sea-Hog.

Pomet. THE *Sea-Hog* is a large Fiſh, very well known, the Uſe of which is very conſiderable, becauſe it is ſo excellent Food, that ſome have ranked this among the royal Fiſh. Of all the Parts of this, we ſell none but the Oil aromatized, or plain, which is nothing but the Fat melted, and by the Addition of ſome Aromaticks, altered from its ſtinking Smell, and made pleaſant. They aſſign to the Fat and Oil of the *Sea Hog*, the Property of curing cold Humours. Some Apothecaries, by the Retort, draw from this Fiſh ſeveral Preparations, to which they attribute different Virtues.

Lemery. *Porcus marinus*, or the *Sea-Hog*, is a large nimble Sea Fiſh, that is almoſt always leaping out of the Water, and ſwims with a vaſt Swiftneſs. They commonly call it *Simon, quaſi ſimum roſtrum habens*, as having a flat Noſe or Snout. The Tongue is ſhort, broad, and fleſhy; the Teeth little and ſharp, ranged like the Teeth of a Comb; the Eyes are large, but ſo covered with the Skin, that they appear only like the Apple of the Eye, yet the Sight is very fine; the Voice is like that of a Perſon crying; the Back is hollowed, and bent outwardly. It ſwims by means of two Wings, or ſtrong able Fins, which are ſet on at the Place of the Shoulders. It comes to its Growth in ten Years, and will live to thirty. *Pliny* relates ſeveral Stories, true and falſe, on this Subject. He will leap on board a Ship, uſually attended with a Companion. Theſe two Fiſh will make their Leaps ſo regularly, that they ſeem to be joined together. There are many of them taken in fiſhing for the *Tunny*. They are very good to eat, and yield abundance of Oil and volatile Salt. The Stomach, dried and powdered, is proper for Diſeaſes of the Spleen, and the Liver for intermitting Fevers. The *Sea-Hogs* are made almoſt like the Dolphins, but they are not ſo little. The Fat of both is uſed to the ſame Purpoſes.

[This is the *Phocæna Rondeletii Geſn.* 838. *Phocæna ſeu Turic-, Bellon.* It is a large Fiſh of the cetaceous kind, common in many Seas, but of no Uſe in Medicine.]

41. *Of the* Bone *of the* Cuttle-Fiſh.

Pomet. THAT which we ſell, and call the *Pomet*. Bone of the *Cuttle-Fiſh*, and the *Latins*, *Os Sepiæ*, is the Back of a Fiſh very common in the Ocean, and alſo in the *Mediterranean*. They are a very ugly Fiſh, and of a ſurpriſing Nature. They eat them in ſeveral Towns in *France*; as *Lyons*, *Bourdeaux*, *Rochel*, *Nantz*, *&c.* The Bone of this Fiſh is of different Sizes, though the largeſt never exceeds half a Foot. The Bones are white, and hard on one Side, and ſoft on the other; for which Reaſon the Goldſmiths uſe them for caſting. Some uſe the *Cuttle-Bone* to clean the Teeth with; but the main Uſe is for the Goldſmiths, and for thoſe who caſt *Venetian Lac*.

This Bone conſiſts of a hard brown Shell on the Outſide, with a thick, white, ſpungy, dry Pulp or Subſtance underneath it, which being rubbed between your Finger, will become a pure white, fine, ſubtil Powder, that being drunk in Water, helps the Aſthma, and is good againſt Diſeaſes of the Breaſt and Kidneys, expelling the Stone and Gravel, and curing a *Gonorrhœa*, taken for a conſiderable Time together. Outwardly applied, it helps Spots, Clouds, Films, Pearls, and other Impediments of Sights, and likewiſe dries up Rheums, and other watry Humours.

Lemery. *Sepia*, the *Cuttle-Fiſh*, is a deformed Sea Fiſh, reſembling much a *Polypus*. The Covering of the Back is a Sort of Shell, Scale, or Bone, as broad as one's Hand, an Inch thick in the Middle, but thinner on the Sides, light, hard without, and ſpongy within, very white, and ſomething of a ſaltiſh Taſte. They call it *Os Sepiæ*, or *Cuttle-Bone*. The Gold-

ſmiths uſe it for Moulds to caſt Forks and Spoons in. This Fiſh carries under its Throat a Bladder, or Receptacle, full of an Humour that is blacker than Ink, which it diſcharges into the Sea, when purſued, to intercept the Sight of the Fiſhermen. It has two kinds of Arms, or Trunks, fixed to the Head, which ſerve it for ſwimming, and to take what it can catch. Beſides theſe, it has ſix Feet which have Teeth on the upper Part of them, and two much larger underneath. It lives on ſmall Fiſh, is good Meat, and brought to the Table in ſeveral Parts of *France*. As to its medicinal Uſe, it is deterſive, aperitive, deſiccative, proper to take away Sports on the Face and Skin, to clean Teeth, provoke Urine, and bring away Stone and Gravel. Doſe from half a Scruple to half a Drachm. The Eggs or Spawn of the *Cuttle-Fiſh* provoke Urine and the Terms.

[The *Cuttle-Fiſh* is the *Sepia Jonſ. Exang.* 7. *Rondelet.* 1. 498. *Loligo Sepia Merr. Pin.* 191.

The principal Uſe now made of the Bone is in Powders for cleaning the Teeth, tho' it is a good Diuretick and Detergent.

The black Liquor it has in a Bag in its Neck, is ſaid to be a ſtrong Purge, but I believe few have ever tried it.]

42. *Of the* Hermit-Fiſh, *or* Soldier.

Pomet. THE *Hermit-Fiſh*, ſays Father *du Tertre*, is a kind of ſmall Crab, of three or four Inches long, or more; one half of the Body of which is like a *Sea Locuſt*, or *Graſhopper*, but clothed with a Shell that is a little harder. It has four Feet, which are like thoſe of a Crab, two Biters, one of which is not much bigger than one of the four Feet, and the other much broader than one's Thumb, that ſtrangely ſhuts the Mouth of the Shell wherein it lodges. All the reſt of the Body is a ſort of Pudding, in a pretty rough thick Skin, as thick as one's Finger, and half the Length, or more. At the End is a little Tail, made up of three ſmall Nails or Shells, like the Tail of a *Sea-Graſhopper*. All that Part is full of a Subſtance, like that in the Shell of a Crab, but red; which being expoſed to the Fire, or ſet in the Sun, melts, and runs into Oil, which is a Balſam for freſh Wounds, which I have made Trials of on ſeveral Perſons with good Succeſs.

They deſcend once every Year to the Sea Coaſt; whether it is to waſh, and to caſt their Eggs, as the Crabs do, I know not: But this I know, that they go to change their Shells, which every one endeavours to find out according to his Size; and finding out what may fit them, they run themſelves backwards therein, and ſo cloath themſelves a-new; and being armed like Soldiers with theſe foreign Shells, they march to the Mountains, and take up their Quarters among the Rocks and hollow Trees, living upon rotten Leaves and Fruit; among other things they ſometimes feed on the Manchineal Apple, which ſo alters them, that inſtead of a wholeſome Food, they become almoſt a Poiſon, encreaſing in Bulk; and the Shell becoming too ſtraight for them, by reaſon of their Growth, they are obliged to go down to the Sea-Coaſt to change their Houſes. The Curious, who have made Obſervations of what happens during the Exchange, have ingenuouſly owned to me, they took a great deal of Satisfaction in the Sight; for they ſtop at every Shell they meet with, conſider it diligently, and having met with one they believe for their Turn, they immediately quit the old one, and run themſelves ſo ſwiftly backwards into the other, that one would think they were either afraid of the Injury of the cold Air, or aſhamed to be ſeen naked.

Ariſtotle, who ſaid that theſe Animals never fight, but for their Victuals, or when they couple, might have added, that they will fight for their Lodging; for if two of them meet at the ſame time ſtripped, to enter into one and the ſame Shell, they will bite each other, and battle it, till ſuch time as the Weaker yields, and quits the Shell to the Conqueror, who having clothed himſelf with it, takes three or four Turns upon the Shore, and if he finds it does not fit him, he quits it again, and has immediate Recourſe to his old one, and then ſeeks out for another; and thus they will change five or ſix times, till they meet with one for their Purpoſe. They carry in their Shells about half a Spoonful of clear Water, which is a ſovereign Remedy againſt the Puſtles and Bliſters that the Droppings of the Manchineal Tree raiſe upon the Skin.

Cancellus is a ſort of very ſmall Craw-fiſh, called the *Hermit*, or *Bernard the Hermit*, becauſe it retires from the others, and enters into the firſt Shell it meets which. The Figure of his Body is longiſh, but in Size of the Bulk of a Spider, only that it is a little larger. It carries upon its Head two little, ſlender, reddiſh Horns; the Eyes are raiſed, the Mouth is ſet with fine Hairs, that may be called a Beard. The two upper Legs are bent up again, and ſerve inſtead of Hands to reach to the Mouth, where it has Teeth. They are found near the Rocks, and are good Meat, ſeveral eating them after they are waſhed and boiled. They afford a great deal of volatile Salt, and are proper for Stone and Gravel, being aperitive. *Lemery.*

In ſeveral of the *American* Iſles they meet with a kind of *Cancellus*, or *Craw-fiſh*, that is much bigger than that I have been ſpeaking of, and that is three or four Inches long, and called the *Soldier*, becauſe he is clothed and armed with a foreign Shell. Thoſe who would know further, may be ſatisfied from the Reverend Father *du Tertre*, who has writ concerning this Animal, [*as* Pomet *has already taken Notice of.*] The Inhabitants of the Iſles where this Fiſh is taken, make an Oil of them, by hanging them in the Sun, ſo that the Subſtance that melts from them makes an Oil of a Conſiſtence as thick as Butter, and of a very fœtid Smell; the Virtues of which are wonderful in rheumatick Pains, to which the Inhabitants of the Country are very ſubject. They ſell this Oil very dear, becauſe it is very ſcarce in *France*.

[The *Hermit-Fiſh*, or Foreign Heir, as he is called by ſome, is the *Cancellus Aldrov. de Exang.* 218. *Geſn. de Aq.* 161. *Cancellus quibuſdam Bernhardus Eremita dictus Charlt. Ex.* 58. *Cancer in Teſtis degens. Merr. Pin.* 192.

The Aſhes of this Fiſh are ſaid to be a powerful Diuretick; the Oil which we have from *America* has been much uſed in Rheumatiſms, but is almoſt neglected at preſent.]

43. *Of the* Sea-Crab *and* Craw-Fiſh.

Pomet. THERE are two Sorts of *Sea Crabs*, ſays Father *du Tertre*, which are commonly called *Homars*, which differ only in this, that the one Kind has two large Pinchers longer and broader than ones Hand, and very ſtrong, and the others have none, but have two large Beards hairy like the Feet of a Crab, and as long as ones Arm; theſe grow to a vaſt Size, ſo that ſome are three Feet long. The Fleſh is white and more reliſhing than the common *Crabs*, but it is harder, and not ſo eaſily digeſted. It is eat with Lemon Juice, Vinegar, and Pepper. They find them in the Night with Lights on the Sands, or ſtony Places, from whence the Tide is retired.

There are no Part of the *Sea-Crab* uſed in Medicine, but the black Tips of the Claws, called *Chelæ Cancrorum*, which are prepared either by Levigation or Calcination. The firſt is by beating them to a fine Powder, and grinding on a Marble with Roſe-Water, or the like. The next Way is putting them in a Crucible, and burning them till they are white, and then reducing them into a fine Powder, as before. Theſe Preparations are *Alcalies* in their Nature, and ſuch as Phyciſians call a fixed *Alcali*. They cure Heart-Burnings, take away Sourneſs from the Stomach, abſorb Acidities, and eaſe Pains in the Bowels, proceeding from ſharp Humours. They are ſometimes given with good Succeſs in the Whites in Women and the *Gonorrhœa* in both Sexes. They are commended to cool, dry, cleanſe, and diſcuſs, and are good againſt Cholicks, ſalt Humours, *&c.*

As to the *Craw-Fiſh*, we ſell nothing but certain little white Stones, made in Form of Eyes, from whence they take their Name, tho' very improperly, ſince they are nothing but little Stones which are found in the Head of the large *Craw-fiſhes*. Theſe Stones, which are called *Crabs Eyes*, or *Oculi Cancrorum*, are never found but in *May* and *June*, which are at the Times that the *Craw-fiſh* leave their Shells. The *Craw-fiſh* or *Creviſe Stones*, which we now ſell at *Paris*, come from *Holland*: And, if we can believe a Phyſician of the *Poland* Envoy, who was a very honeſt able Man, and remained a long Time in *Holland*, he aſſured me, that what we ſell now under the Denomination of *Crabs Eyes*, was nothing but a white Earth waſhed, and made into little Paſtiles, and moulded with little Inſtruments made for that Purpoſe, with Holes of proper Sizes, to form it, and afterwards baked to a Dryneſs and ſent over to us. To prove this, he aſſured me he ſaw two Perſons at *Amſterdam*, who did nothing elſe but counterfeit theſe little Stones; ſo that now it is no longer doubted but the greateſt Part of the *Crabs Eyes* made uſe of in the Shops is nothing elſe but an artificial Paſte reduced to Powder. What I have to add to this, is, that there may indeed be Counterfeits of *Crabs Eyes*, as there are of almoſt all other Drugs, but we need not therefore conclude that all we ſell are ſo, neither need the Quantities we receive of theſe Stones be objected as a Proof they are not genuine, for in the *Eaſt-Indies*, where the Fiſh which produce them breed them more abundantly than here, the Shores of Rivers are in ſome Places covered with them, and they are gathered up by Handfuls, and it is from thence that the *Dutch* bring the Quantities they have. In *Sileſia* they have alſo great Quantities of them, as alſo in *Poland*; and they are brought from *Dantzick*, *Hamburgh*, *Denmark*, *Norway*, and *Swedeland*, and are found almoſt every where upon the Shore of the *Baltick* Ocean.

And what ſtrengthens our Opinion of their being genuine, is, that in burning they blacken and calcine as all Bones and Shells do.

There are ſeveral Preparations of them, but the levigated Powder is only uſed, and that chiefly to abſorb Acids, open Obſtructions, and cleanſe the urinary Paſſages of Gravel; to provoke Urine, and bring away the Stone, and other tartarous Coagulations: The whole Fiſh is alſo ſometimes calcined in a Crucible and brought to Aſhes, which we

we ſell. If they are rightly prepared, they ought to to be yellow; for if they are of a black Colour, they are too much burnt, and good for nothing.

[The *Crab*, whoſe Claws is uſed in Medicine, is the common *Sea-Crab* the *Cancer Mæas Rond.* 1. 560. *Cancri Marini maximi apicibus Chelarum nigricantibus, Ind. Med.* 25. *Pagurus, Bellon. De Aquat.* 368. *Cancer Schon. Ichth.* 30. What we call *Crabs Eyes* are often adulterated, but the genuine are Stones formed in two Bags, one on each Side, of the Stomach of *Crabs*, *Craw-fiſh*, *Lobſters*, *&c.* and found in great Plenty on the Coaſts of the *Baltick*. They are found in the Bodies of theſe Animals, only at certain Times of the Year, for in *June* and *July*, when they caſt their Shells, there are none to be found in them, but a new Stomach being formed at that Time, as well as a new Shell, a milky Juice ſoon fills the Bags, out of which the Stones are formed.]

44. *Of the* Boutargo *and* Caviere.

Pomet. *Boutargo*, or *Potargo*, is the Spawn of a Fiſh, which the People of *Provence* call the Mullet, very frequent in the *Mediterranean*. The beſt is that which comes from *Tunis* in *Barbary*. It is likewiſe made at *Martegue*, eight Leagues from *Marſeilles*. The reddeſt is moſt valued. They eat it on Faſt-Days with Oil Olive and Lemon.

There is alſo a Stone found in the Head of this Fiſh, which is aperitive, and good for the Stone, the Doſe is from half a Scruple to two Scruples.

The *Caviere*, or *Cavial*, which we have, comes from *Italy*, is made in ſeveral Parts of the *Levant* from the Spawn of a Fiſh, which ſome have aſſured me was the *Sturgeon*, which I ſhall not aſſert to be ſo, not knowing it poſitively. I ſhall only ſay this, that they eat a great deal of it in *Italy*, and but little in *France*, it not being ſo well known, no more than the *Boutargo*, eſpecially at *Paris*.

Lemery. *Mugil*, *Cephalus*, or the Mullet, whereof *Boutargo* is made, is a Sea and River Fiſh, which has a great Head, from whence it is called *Cephalus*, which ſignifies a Head; the Muzzle is thick and ſhort, the Body oblong, covered with Scales. They find a Stone in its Head, which is called *Echinus*, or *Sphondilus*, becauſe it is ſet with Prickles. This Fiſh is common in the *Mediterranean*; it ſwims with an extraordinary Swiftneſs, and gives ſome Diſturbance to the Fiſhermen. It is good Meat, and yields Abundance of Oil and Phlegm, with ſome little volatile and fixed Salt. The Ventricle being dried and reduced to Powder, is proper to ſtop Vomiting, and ſtrengthen the Stomach: This Stone found in the Head is very aperitive, and proper to diſſolve the Stone in the Kidneys and Bladder. The Doſe is from half a Scruple to two Scruples. The Spawn of the Fiſh ſerves to make *Boutarg* of, which is uſually eat on Faſt-Days.

[The *Mullet*, the Spawn of which which makes *Boutargo*, is the *Mugil. Raii Ichth.* 214. *Cephalus Rond. de Piſc.* 1. 260.

Caviere is the Spawn of the *Sturgeon*, *Sturio Ald. de Piſc.* 517. *Sturio ſive Silurus. Salv. de Aq.* 113. prepared with Salt, Vinegar, *&c.* and is more properly a Food than a Medicine.]

45. *Of the* Shark.

THIS Fiſh is called by the *Spaniards* *Pomet.* *Phyburon*, by the *Dutch* *Haye*, and by the *French*, *Requiem*, becauſe it devours Men, and ſo is the Occaſion that *Dirges* are ſung over them: It is in Shape very like the *Sea-Dog*, or *Hound-fiſh* deſcribed before. He is one of the moſt gluttonous Animals in the World; nothing comes amiſs to him; tho' it be a Log of Wood he will ſwallow it, provided it be but greaſy, for he ſwallows without chewing. He is furious and bold, and will throw himſelf to the Shore, and remain almoſt on the dry Land, that he may have the Opportunity of catching the Paſſengers. Sometimes he will bite at the very Oars with his ſharp Teeth, for Rage and Madneſs that he cannot get at the Men which are in the Boat. There is found in his Head two or three Spoonfuls of Brain that is as white as Snow, which being dried, reduced to Powder, and taken in white Wine, is excellent for the Gravel. The Reverend Father *du Tertre* has made a long Diſcourſe of this Animal, to which the Reader may have Recourſe. Some have given the Name of *Tiberon* to this Animal, and others that of the Fiſh with two hundred Teeth; and he is ſo furious, that with one Bite he will ſnap off the Thigh of a Man

Beſides theſe Animals, and Parts of them whereof I have treated, we ſell, tho' very rarely, the Bone of the *Shark's* Head, as alſo thoſe of the Crocodile, Carp, Perch, *&c.* with the Jaws of the Pike; and, in *France*, the Druggiſts are permitted to ſell all Sorts of Salt-Fiſh, either Wholeſale or Retale.

Lemery. *Carcharias*, *Canis Marinus*, or the *Sea-Dog*, is an *American* Fiſh, that grows to a large Size, ſo as to be two Ton Weight. It is long and thick, covered with a rough Skin. The Head is very great, and like a Dog's; the Mouth long and broad, furniſhed with Abundance of triangular Teeth, that are hard and ſharp. The Eyes are large and round, the Body cartilaginous, the Tail about

about a Foot and a half long, and forked; the Fins are great, it ſwims in the deep Sea, but ſometimes enters into the Mouths of the Rivers to purſue its Prey; it lives on Fiſh and Fleſh, but is very eager after that of Man. *Johnſton* relates, that he found in one of theſe *Sea-Dogs* a whole Man. They are of ſeveral Sizes. Their Fleſh is eat, but it is not good. The Skin is of great Uſe to ſeveral Artiſts. The Head contains in it two or three Ounces of Brain, that is very white. The Teeth are uſed to rub Children's Gums with, to make their Teeth cut.

[The *Shark* is the *Canis Carcharias. Ald. De Piſc.* 383. *Canis Carcharis ſeu Lamia Raii Iɛth.* 47. *Canis Ariſtoteli ſive Carcharis Jonſ. de Piſc.* 13. The petrified Teeth of this Fiſh are what are called *Gloſſopetræ*, they are hung by the good Women about Childrens Necks, in Imagination that they aſſiſt them in the Time of cutting their Teeth. They are alſo ſaid to be cordial, alexipharmick, and ſudorifick taken inwardly, but I believe few have tried them.]

46. *Of* Pearl.

Pomet. THE *Pearls* are little round Bodies, or rough and roundiſh, that are found both in the Eaſtern and Weſtern Seas. There are ſeveral ſorts of them, which are more or leſs valued, according as they are large, round, and of a fine Water, and according the Place from whence they are taken, as the following Account from Mr. *Tavernier*, who in his Travels has made a curious Enquiry after them, will ſhew. Theſe Pearls are found, ſays he, both in the Eaſt and Weſtern Oceans. And though I have never been in *America*, yet as well for the Reader's Satisfaction, as that nothing may be omitted, I ſhall relate all the Parts where the Pearl Fiſhings are, beginning with thoſe of the Eaſt. Firſt of all, there is Pearl Fiſhing about the Iſle of *Bahren* in the Gulph of *Perſia*. This belongs to the King of *Perſia*, and therein is a good Fortreſs that entertains a Garriſon of three Hundred Men. The Water which they drink in this Iſland, and that of the Coaſt of *Perſia*, is like ſalt Water, and of an ill Taſte, and what none but thoſe of the Country are able to drink. As for Strangers, if they will have freſh Water, they muſt pay for it; being only to be had a League or two off, by putting to Sea five or ſix Perſons in a little Veſſel, and drawing Water with a Bottle from the Bottom of the Sea, where for about two or three Foot at the Bottom of the Water is ſweet, and pleaſant to drink. When they that dive to the Bottom of the Sea to draw up this Water have filled the Veſſel, and ſtopped it cloſe, they give a Pull to a ſmall Cord, which is tied to one of thoſe in the Boat, which is the Signal to his Comrades to pull him up.

During the Time that the *Portugueſe* were poſſeſſed of *Ormus* and *Maſcatè*, every Veſſel that went out to fiſh, was obliged to take from them a Paſſport, that coſt fifteen *Abaſſis*, and they kept always ſeveral Brigantines to ſink ſuch as refuſed. But ſince that the *Arabs* have retaken *Maſcatè*, and that the *Portugueſe* have no Forces upon the *Gulph*, every Man that fiſhes, pays only to the King of *Perſia* five *Abaſſis*, whether he has Succeſs in his Fiſhery, or catches nothing at all. The Merchant alſo gives ſome ſmall Matter to the King out of every thouſand Oyſters.

The ſecond Fiſhery of *Pearls* is oppoſite to *Bahren*, on the Coaſt of *Arabia Fœlix*, near the City of *Catifa*, which belongs to a Prince of the *Arabs*, with all the Country thereabouts. All the *Pearls* taken in thoſe Parts are moſtly ſold in the *Indies*; becauſe the *Indians* are not ſo difficult to be pleaſed as we, and will take the rough as well as the round. They likewiſe carry ſome to *Balſara*. Thoſe that go into *Perſia* and *Muſcovy* are ſold at *Bander-Congo*, two Days Journey from *Ormus*. In all the Places I have named, and other Places of *Aſia*, they admire the *Pearl* that is upon the yellow Water, more than the white, becauſe they ſay the *Pearl*, with that Water, retains its Livelineſs, and will not fade; but that the white will not laſt above thirty Years without loſing its lively Colour; and not only the Heat of the Country, but the Sweat of the Perſon that wears them, will diſcolour them with an ugly yellow.

Before I leave the Gulph of *Ormus*, I muſt beg leave to give an Account of that admirable *Pearl*, which the Prince of the *Arabs* had, who took *Maſcatè* from the *Portuguſe*, who took then the Name of *Imeneɛt*, Prince of *Maſcatè*, but was called before that, *Aceph Aen Ali*, Prince of *Norenvaè*. It is no other than a petty Province, but the beſt of all the *Arabia Fœlix*. There grows every thing that is neceſſary for human Life, but particularly the fineſt Fruits, and eſpecially Grapes, whereof they may make excellent Wine. This Prince had the fineſt *Pearl* that was in the World; not for its Size, for it weighed not above twelve Carats, or its perfect Roundneſs; but becauſe it was ſo clear and tranſparent, that you might almoſt ſee clearly through it. As the *Gulph* over-againſt *Ormus* was not above twelve Leagues over from the *Happy Arabia* to the Coaſt of *Perſia*, and the *Arabs* were at Peace with the *Perſians*, the Prince of *Maſcatè* came to pay a Viſit to the *Kan* of *Ormus*, who treated him very magnificently, and invited to his Entertainment, the *Engliſh* and *Dutch*,

Dutch, and ſeveral other *Europeans*, of which Number I was one. When Dinner was over, the Prince took this *Pearl* from a little Purſe that hung about his Neck, and ſhewed it to the *Kan* and all the Company. The *Kan* would have bought it, for a Preſent to the King of *Perſia*, and offered him to two Thouſand Tomens, but it would not do. Since that, I paſſed the Sea with a *Banian* Merchant, which the Great *Mogul* had ſent to that Prince to offer him Forty Thouſand Crowns for that *Pearl*, which he would not take. This Story lets us ſee as to what relates to Jewels; thoſe which are fine are not always brought into *Europe*, but rather carried out of *Europe* in *Aſia*; becauſe in all thoſe Parts, they ſet a great Price upon precious Stones and Pearls that are of an extraordinary Beauty, except in *China* and *Japan*, where they do not mind them at all.

The next Place, in the Eaſtern Parts where there is a Fiſhery of *Pearls*, is in the Sea that beats upon a large Town, called *Manar*, in the Iſle of *Ceylon*. Theſe are the fineſt for their Water, and their Roundneſs, of all the other Fiſheries, but there are rarely any found that exceed three or four Carats Weight. There are, moreover, upon the Coaſt of *Japan*, *Pearls* of a very fine Water, and very large, but uneven or rough; but they never fiſh for them, becauſe, as I have been ſaying, the *Japoneze* do not value Jewels. Although the *Pearls* which are found at *Bahren* and *Catifa* are a little upon the yellow, they will yield as good a Price as thoſe of *Manar*, as I have obſerved; and throughout all the Eaſt, they allow they are then come to their full Maturity, and will never change Colour.

I come now to the Weſtern Fiſheries, which are all in the great *Gulph* of *Mexico*, along the Coaſt of *New Spain*, and they are five in Number, lying in Order, from the Eaſt to the Weſt, as follows. The firſt is along the Iſle of *Cuba*, which is not above three Leagues about, and five, or thereabouts, diſtant from the *Terra firma*. It is in ſix Degrees and a half of Northern Latitude, and one Hundred and ſixty Leagues from *St. Domingo*, in the Iſle called *Hiſpaniola*. This is a very barren Soil, and wants every Thing, eſpecially Water, which the Inhabitants are obliged to fetch from the *Terra firma*. This Iſland is famous in the *Weſt-Indies*, becauſe it is the Place where there is the greateſt Fiſhery of *Pearls*, though the largeſt of them, exceed not five Carats Weight.

The ſecond Fiſhery is in the Iſle of *Margarit*, that is to ſay, the Iſle of *Pearls*, a League from *Cuba*, which it very far ſurpaſſes in Bigneſs. It produces every Thing neceſſary for Life, only that it wants Water as well as *Cuba*, and they are forced to bring it from the River *Cumana*, near *New Cadiz*. This Fiſhery does not yield the moſt Plenty of all the Five that are in *America*, but is eſteemed the Chief, becauſe the Pearls which are found here excel the other in Goodneſs, as well for their Water as their Bigneſs. One of theſe laſt, which I have had in my Poſſeſſion, being ſhaped like a Pear, and of a fine Water, weighed fifty five Carats, and I ſold it to *Cha Eſt Kan*, Uncle to the Great *Mogul*. Several Perſons are ſurprized, and wonder why we ſhould carry Pearls out of *Europe* into the *Eaſt-Indies*, where they have ſo many: But they ſhould take Notice that in their Fiſheries of the Eaſt, they do not meet with ſuch large ones as in the Weſt; adding to this, that all the Kings and great Lords of *Aſia*, will give a greater Price than thoſe in *Europe*, not only for Pearls, but all ſorts of Jewels, that have any Thing excellent in them, except Diamonds.

The third Fiſhery is at *Comogota*, pretty near the *Terra firma*. The fourth is at *Rio de la Hacha*, along the ſame Coaſt. The fifth and laſt is at *St. Martha's*, about ſixty Leagues from *Rio de la Hacha*. All theſe three Fiſheries produce pretty large *Pearl*, but for the moſt Part they are ill ſhaped, or irregular, and of a black or leaden Water. As for the *Scotch Pearl*, and thoſe found in one of the Rivers of *Bavaria*, though there have been Necklaces of them valued at a Thouſand Crowns and upwards, yet they are not to be equalized with the oriental or occidental *Pearl*. Of later Years there has been a Fiſhery diſcovered in a certain Part of the Coaſt of *Japan*, and I have ſeen ſome of the *Pearl* which the *Dutch* have brought from thence, that have been of a fine Water, and large, but irregular.

Before I finiſh this Chapter, I will give you a Remark worth Conſideration, in Relation to *Pearls*, and the Difference of their Waters; ſome being very white, ſome inclining to yellow, and others upon the black, which are, as it were, of a leaden Colour. As to theſe laſt, they are met with no where but in *America*, and their Colour comes from the Nature of the Soil, which is fuller of Mud than that of the Eaſtern Parts. In the Return of the Cargo which the Sieur *du Jardin*, the famous Jeweller, had in the *Spaniſh Galleons*, there were ſix *Pearls*, perfectly round, but as black as Jet, and which, one with another, weighed twelve Carats each. He gave me theſe, among other Things, to carry to the *Eaſt-Indies*, and ſee if I could diſpoſe of them; but I brought them back again, and could meet with no Body that would look upon them. As to the *Pearls* which are inclined to yellow, that comes from hence, that the Fiſhermen ſelling the Oyſters in Heaps, and the Merchant

chant ſtaying ſometimes fourteen or fifteen Days before they open, to take out the *Pearl*; ſome of theſe Oyſters, during this Time, loſe their Liquor, which waſtes and ſtinks, and the Pearl becomes yellow from the Infection; which is ſo true, that in all the Oyſters that keep their Liquor, or Water in them, the *Pearls* are always white; but they wait till the Oyſters open of themſelves; becauſe if they ſhould open them by Force, as we do ours here, they would endanger the damaging and ſplitting the *Pearl*. The Oyſters of the *Streights* of *Manar*, open naturally five or ſix Days ſooner than thoſe of the *Gulph* of *Perſia*, becauſe the Heat is much greater there, which is in the tenth Degree of Northern Latitude, than in the Iſle of *Bahren*, which is in the twenty-ſeventh; and therefore among the *Pearls* that come from *Manar*, there are but few yellow ones. In ſhort, the People of all the Eaſtern Countries are much of our Minds, in relation to Whiteneſs; for I have always made it my Obſervation, that they love the whiteſt *Pearl*, the whiteſt Diamonds, the whiteſt Bread, and the faireſt Women.

Lemery. *Margaritæ*, *Uniones*, *vel Perlæ*, *Pearls*, are little Stones almoſt round, oval, or ſhaped like Pears, compact, hard, ſmooth, white, ſhining, and of different Sizes, which are formed in certain Oyſters, whoſe Shells are of different Bigneſs: But there ſome of them met with that are three or four Times as big as the *Roüen Oyſters*. They fiſh for theſe Pearl Oyſters in the Eaſtern and Weſtern Ocean, as you may ſee at Length in Mr. *Tavernier's* Travels. The Antients called theſe Pearls *Uniones*, becauſe they believed there never was but one in an Oyſter; but they were deceived, for we ſometimes find ſeven in a Shell. They are bred from a viſcous, or ſaline, glutinous Humour, that is condenſed and petrified in ſeveral Parts of the Fiſh. Inſtead of a particular Part being aſſign'd for the Generation of *Pearl*, they breed indifferently in all the Parts of the Oyſter, but are moſt commonly found in the largeſt and beſt ſhaped Oyſters rather than in others; theſe Oyſters are as good to eat as the common Sort. Sometimes we meet with Pearl in Muſcles, and other Shell Fiſh, as well as in Oyſters. All *Pearl* is eſteemed cordial, proper againſt Infection, to recruit and reſtore loſt Spirits; but their chief Virtue is to deſtroy Acids, as other Alcalies do, and likewiſe to correct the Acrimony of the Stomach. *Pearl* is likewiſe good againſt a canine Appetite, a Flux of the Belly, the Hemorrhage, *&c.* The Doſe from ſix or ten Grains to a Drachm.

47. *The Manner of the* Pearl *breeding in the* Oyſter.

Pomet. I Know, that on the Authority of ſeveral antient Authors, that were not well informed in the Nature of Things, it is commonly believed that *Pearl* is bred from the Dew of Heaven, and that there is never above one in a Shell; but Experience has let us ſee the contrary: For as to the firſt, the Oyſter never ſtirs from the Bottom of the Sea, where the Dew can never come; and as to the other, it is certain that there are found from ſix to ſeven *Pearls* in a ſingle Oyſter; for I have one in my Hands, where there are ten *Pearls*, that were in the Courſe of Formation. It is true, they are not all of the ſame Size, for they breed in the Oyſter juſt as Eggs in the Belly of the Hen; for as the largeſt Egg advances firſt to be excluded, the leaſt ſtay behind, till they have acquired their Bigneſs; ſo the largeſt *Pearl* advances firſt, and the other leſs, not having attained to their Perfection, remain under the Oyſter at the Bottom, till they are grown to the Size that Nature has appointed for them; but we cannot ſay there is a Pearl in every Oyſter, for there are ſeveral opened in which there are none at all.

The Pearl-Fiſhing in the *Eaſt-Indies* is twice a Year; the firſt is in *March* and *April*, and the ſecond in *Auguſt* and *September*; and the Sale of them is from *June* to *November*. The People are ſo poor, and live ſo miſerably along the Coaſt on the *Perſian Gulph*, that they muſt ſtarve but for this Fiſhery, for they have neither Bread nor Rice, and eat nothing but Dates and Salt-Fiſh; and they muſt go twenty Leagues in the Country before they can meet with a Plant. The more Rain there falls in a Year, the better the Pearl-Fiſhing is. Many have imagined, that the deeper in Water the Oyſter is found, the Pearl therein is the whiter, becauſe the Water is not ſo hot, and the Sun finds greater Reſiſtance to get to the Bottom; but that is only a groundleſs Fancy. They fiſh from four to twelve Fathom deep; and this Fiſhery is upon the Banks, where there are ſometimes Two hundred Barks, or little Veſſels, at a Time, in moſt of which there is not above one Diver, or two at moſt.

Theſe Boats go off every Day from the Coaſt before the Sun riſes, with a Land-Breeze, which laſts till ten a Clock in the Morning, and in the Afternoon they return with the Sea-Breeze, that conſtantly, about eleven or twelve at Noon, ſucceeds the other. The Banks upon which they fiſh, are five or ſix Leagues out at Sea, and when they come there, they fiſh thus for the Oyſters:

They tie a Cord under the Arms of thoſe that dive, of which thoſe that remain in the Boat take hold of the End. They tie to the great Toe a Stone of eighteen or twenty Pounds, of which thoſe that are in the Boat take hold alſo by a Cord. They have beſides a Net made like a Sack, whoſe Mouth is made round like a Circle, that it may keep open, and this Net is tied like the reſt. Then the Diver goes down into the Sea, and as ſoon as he is at the Bottom, where he is quickly by the Weight of the Stone, he nimbly unties the Stone, which thoſe in the Boat draw up again. As long as the Diver can hold his Breath, he put the Oyſters into the Net, and when he finds he can hold no longer, pulls the Cord that is tied under his Arms, which is the Signal that he would come up, and thoſe that are in the Boat draw him up as quick as poſſible. Thoſe at *Manar* are more expert at fiſhing, and ſtay longer in the Water than the Fiſhermen of *Bahren* and *Catiſa*, for they put nothing in their Noſes or Ears to keep out the Water, as they do in the *Gulph* of *Perſia*.

After they have drawn up the Diver into the Boat, they take about half a Quarter of an Hour's Time to empty the Net of the Oyſters. In the mean while the Diver recovers his Breath, and then returns to the Bottom of the Sea, as before; which he does ſeveral Times for ten or twelve Hours together, and then returns to Land. To conclude this Diſcourſe of Pearl, we ought to obſerve, that throughout *Europe* they ſell by the *Carat*, which is four Grains, as well as that of the Diamond Weight; but in *Aſia* they uſe ſeveral Weights. In *Perſia* they weigh Pearls by the *Abas*, and an *Abas* is an Eighth leſs than our *Carat*. In the *Indies*, eſpecially in the Great *Mogul's* Countries, and in the Kingdoms of *Golconda* and *Viſapour*, they weigh by the *Ratis*, and that is alſo an Eighth leſs than the *Carat*.

Goa was formerly the Place where the great Trade of *Aſia* lay for Diamonds, Rubies, Sapphirs, Topazes, and other precious Stones. All the Miners and Merchants came here to ſell whatever was fine from the Mines, *&c.* Here alſo was the great Commerce of Pearls from all Parts of *Aſia*, as alſo of thoſe from *America*. As for *Africa*, this Sort of Traffick is unknown to them, becauſe the Women there are contented with Pieces of Chryſtal, or ſome Grains of falſe Coral, Glaſs Beads, or yellow Amber, to make Necklaces and Bracelets of. As to the Pearl we uſually ſell, called *Seed Pearl*, which is for medicinal Uſes, being proper to reduce into Powder by the Mortar or Muller, it ought to be white, clear, tranſparent, and true Oriental, rejecting all other Kinds, eſpecially the *Scotch* or *Bruſſels Pearl*, being nothing but an artificial or counterfeit Sort. The Uſe of Pearl is to put in Potions, or other Cordial Compoſitions. The Ladies of Quality uſe the fine ground Powder of it, to give a Luſtre and Beauty to the Face. They make of it likewiſe, with Acids, *&c.* a Magiſtery and Salt, to which they attribute large Virtues; beſides other imaginary Preparations; as the *Arcanum* of Pearl, the Flowers, Spirits, Eſſences, Tinctures, and the like, to pick Fools Pockets; but the beſt and only uſeful Preparation of it, is the Powder well levigated.

[*Pearls* are a morbid Excreſcence from the Shells they are found in, of a ſtony Subſtance, and conſiſting of ſeveral *Strata*, like the *Bezoar* and other Animal Stones, and have no other Virtues however extolled than thoſe of the Shell they are bred in.

The *Scotch Pearls* are found in the common Oyſter, and are often as big as a ſmall Pea, and ſometimes, though ſeldom, larger.

The oriental and occidental Pearls, of which the former are moſt eſteemed, and of thoſe, eſpecially thoſe of *Ormus*, are found in the *Concha Margaritifera pleriſque Berberis antiquis Indis dicta. Liſt. Hiſt.* and in Oyſters and Muſcles, of many Kinds.]

48. *Of* Mother of Pearl.

Pomet. WE bring to *Paris* great greyiſh Shells that are rough and uneven on the Outſide, and of a white, inclining a little to be greeniſh within, which they call, though improperly, by the Name of *Mother of Pearl*; not becauſe the Pearl is bred in them, as a great many People believe, but becauſe they are on the Inſide of the Colour and Water of oriental *Pearl*, as they are alſo without, when they are prepared with *Aqua Fortis*. Theſe Shells ſerve for ſeveral Sorts of fine Works: And as they are alkaline and approach to the Virtues of Pearl, a great many People preſerve and grind them into Powder, after which they form them into Troches, and ſell them for prepared *Pearl*.

Lemery. The *Mater Perlarum* or *Nacre de Perles*, in *Engliſh*, *Mother of Pearl*, is a kind of Oyſter, of which there are ſeveral Sorts that are within of the Colour and Beauty of the oriental *Pearl*. I have preſerved by me one of theſe Shells that weighs ſeventeen Ounces, and is as broad as both my Hands. Chuſe the whiteſt, and of the beſt Luſtre. They make of theſe Shells Snuff-Boxes, and a great many other fine poliſhed Works, that are neat, ſmooth, and

48

True Mother of Pearl.



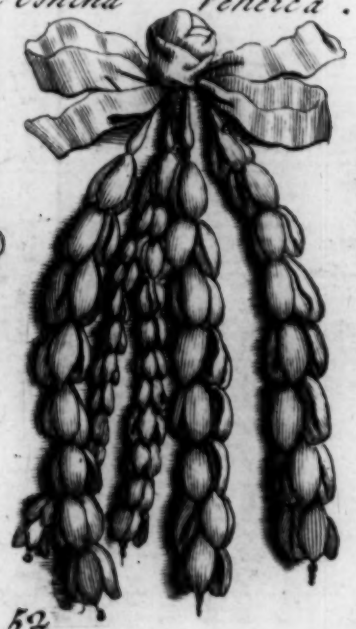
Fine Pearl.

False Mother of Pearl.



49

The Shell of ye Sea Snail or Concha Veneria.



50



The true Tooth shell.



The false.

Smal Sea snail shels.



51

The true Antalium.



The False.



Great Sea snail shell.



52

The Nerita.



53

Sweet Hoof.



54



The Solen or Finger shell.

and very agreeable to the Eye. And likewiſe grind it to Powder on a Porphyry, and it is uſed by the Women amongſt their Pomatums, for a *Fucus* to beautify the Face.

[The *Mother of Pearl* is the *Concha Margaritifera*, *Mont. Ex.* 6. *Bellon. Aq.* 202. *Concha Mater Unionum*, *Rond. Aq.* 2. 33. *Concha Mater Unionum dicta, ſive Margaritifera*, *Bonan.* 93. 11. n. 1. It is one of the many Shells in which *Pearls* are found. It is as good an Alkali as the reſt of the ſame Claſs, and though not often preſcribed, is very often uſed, being generally a Succedaneum for the true *Pearl*.]

49. *Of the* Shell *of the* Sea Snail, *called* Concha Venerea.

Pomet. WHAT we call the *Porcelain*, or *Sea Snail Shell*, and the *Latins*, *Concha Venerea*, is the little white Shell that is brought from ſeveral Parts of the *Eaſt* and *Weſt-Indies*, hung in Strings in the Nature of Beads, and brought to us in Bunches; ſo that in a Parcel where there are ſeveral of theſe Bunches, there are more than a Thouſand of theſe little Shells. The *Siamois*, *Arovargues*, and the People of *New Spain*, uſe theſe little Shells as we do Money here. They are uſed in Powder with us as Pearl; chuſe the leaſt and the whiteſt. There are ſeveral Sorts of them deſcribed by *Johnſton*, but we have only given the Figure of one, which is the Kind kept by the Druggiſts. It was once an Opinion, that the fine *China* Ware was made of theſe Shells, *&c.* but it is now known to be made of an Earth; though the Manner of Painting it, and other Particulars, are yet a Secret.

Lemery. *Concha Venerea*, *Porcelaine*, or *Puce-lage*, is a little *Sea Snail Shell*, ſomething larger than a Pine Kernel, longiſh, white, and ſmooth, which is brought us from the *Indies*, ſtrung ſeveral together like Beads. They ſerve the Natives there for Money. They make a better white than *Pearl*, and are uſed in Paint for the Face. Beſides which, they are alcaline, and a good Sweetner of the Blood, but are not much uſed in Phyſick.

[The *Porcelaine*, or *Money Shell*, is the *Concha Venerea*, *Conchula Cytheriaca*, *Mont. Exot.* 6. *Venerea in Mari Siculo et Tarentino frequens*, *ubi vulgo vocatur Porcelletta*. *Bonan.* 145. n. 251. It is an Alkali, like the reſt of the Teſtaceous Kind, but never uſed in Medicine.]

50. *Of the* Dentalium, *or* Dog Tooth-ſhell.

Pomet. THE true *Dog Tooth-ſhell*, or *Dentalium*, not *Dantalis*, as it is commonly called, is a kind of Pipe of about three Inches long, thick at one End, and ſmall at the other, made like a Dog's Tooth, of a greeniſh ſhining White, adorned with ſtraight Lines that go from one End to the other. It is hollow, and light, of the Size of a Quill at the thick End, and ſmaller by Degrees, to the other End.

This true *Tooth-ſhell* is ſo rare, that it was never rightly deſcribed by any one; and if it were not that Mr. *Tournefort* has given me one, the Figure of which is engraved in Plate 86, I ſhould have been obliged to paſs it over in ſilence, and ſay, with *Schroder* and others, that it was that ſmall hollow Pipe of ſeveral Colours, which is very commonly found on the Sea Side, and ſold in the Shops for the *true Dentalium*, and which the Apothecaries improperly uſe as ſuch in ſeveral *Galenical* Compoſitions. Several likewiſe uſe a Bone from the Head of a Sea Fiſh for the true *Tooth-ſhell*. As to the Virtues of this, it is an Alcali, to be uſed as other teſtaceous Powders.

[The *Tooth-ſhell* is the *Dentalium*, *Mont. Exot.* 6. *Dentale lævum*, *album*, *altera extremitate ruſeſcens*, *Liſt. Hiſt. Conch.* 4. *Sect.* 11. n. 2. *Tubulus Dentalis lævis*, *Lang. Meth. Teſt.* 5. It is found in the *Britiſh* Seas, and is of an oblong, ſlender, cylindrical Shape, ſomething crooked, and open at both Ends. It has been made an Ingredient in many Compoſitions, but is very little uſed at preſent.]

51. *Of the* Antalium, *or* Entaglia.

Pomet. THE true *Antalium* is as little known as the former, ſince the Apothecaries conſtantly, for the true *Antalium*, uſe a hollow Pipe, of different Colours and Sizes, not exceeding, however, that of a large Quill. Theſe Pipes are found at the Bottom of the Sea, and upon Rocks, ſometimes ſeparate, and ſometimes ſeveral of them together; they ſerve for ſeveral little Sea-Worms to creep into. And ſeveral Authors, eſpecially *Rondelet*, an eminent Phyſician of *Montpelier*, calls theſe Pipes, *Tubili Marini*. I ſhall not ſtop here to relate the long Diſcourſe of *Renou* in his Book, but affirm, according to Mr. *Tournefort*, who is a Man of the greateſt Perſpicuity, as well in Plants as Shells, that *Europe* has bred theſe many Years, that the true *Antalium* is another ſort of Pipe, which grows likewiſe at the Bottom of the Sea. This Pipe is about an Inch and a half long, and the Bigneſs of a large Quill at the thick End, and that of a little Quill at the other. It is hollow and thick at one End, and ſlender at the other. As to the Colour it is always white,

white, but differently ſo, being found of a greeniſh white, and a more unpoliſhed white, &c. As to the Choice of theſe two Pipes, there is no other than to take the true; for the Virtue of the *Antalium* is nothing different from that of the *Dentalium*, they being both Alcalies and Driers.

[The *Entaglia* is the *Entallium*, *Charlt. Ex.* 63. *Tubulus dentalis ſtratus*, *Lang. Meth. Teſt. Tubulus aut Siphunculus maris. Bonan*, 91. It is like the Tooth-ſhell, but longer and thicker, of a greeniſh Colour, and ſtriated. It is brought to us from the *Eaſt-Indies*, and poſſeſſes the Virtues of the former, and other teſtaceous Subſtances, but is very little uſed.]

52. *Of the* Umbilicus Marinus.

Pomet. WHAT the *Latins* calls *Umbilicus Marinus*, i. e. *Sea-Navel*, is the Covering of a Sea Snail, that is very common in the *Mediterranean*, which *Rondelet* calls *Cochlea cælata*. This Lid is tied to one End of the Fiſh, and when it retires into its Shell it draws after it the Lid or Covering, which ſhuts the Mouth of the Shell ſo exactly, that the Sea-Water cannot enter. *Rondelet* informs us, with good Reaſon, that the true *Umbilicus Marinus* is a Shell very different from this *Covering*, which he deſcribes in the 38th and 39th Chapters of the ſame Book; but Cuſtom has decided this Controverſy in Favour of his Covering, which muſt be uſed when the *Umbilicus Marinus* is preſcribed: It is of different Sizes. That which is moſt frequently ſeen is not much broader than a Farthing, and of about the Thickneſs of a Crown-Piece. It has its Denomination from the Similitude it bears to that Part, of which it bears the Name. It is flat on one Side and convex on the other, and of different Colours, the flat Side being ſometimes whitiſh, but commonly of a mottled brown, and the convex Side, white with a Mixture of yellowiſh or reddiſh. Some inſtead of this, tho' it is not very ſcarce, uſe the Shell of a Sea-Snail called *Nerita*, of which Mr. *Tournefort* gives the following Account.

The Hiſtory of the *Nerita* is very confuſed in both antient and modern Authors. But that which *Rondelet* takes for the *Delian Nerita*, is a kind of Sea-Snail that is found in the *Mediterranean*, and which the Waves caſt upon the Sands in the ſame Places with the *Solen*. Theſe Snails are as big as the Land-Snails, and pretty like them in Shape; but they are much thicker, ſmoother, and uſually redder within: Outwardly they are met with of different Colours. *Rondelet* ſays, that the Sort he ſpeaks of are marked or ſpotted with Black, but this Kind is ſcarce. I have ſeen ſome all white, others that have been of a Roſe-Colour, and ſeveral other Varieties. Thoſe alſo which *Bellonius* deſcribes reſemble the Figure of thoſe of *Rondeletius*, but he has not mentioned their Colour. He ſays they are called *Bigomet*, or *Bigorneau*, in *Bretagne*, and *Virlis* at *Paris*. Beſides the *Nerita* ſome Apothecaries uſe, inſtead of the *Umbilicus Marinus*, a ſmall Plant, whoſe Leaves are round and thick, which the Antients called *Cotyledon*, or *Umbilicus Veneris*, Navelwort, becauſe the Leaves pretty much reſemble the Shape of the Navel. This Plant is pretty ſcarce at *Paris*, but very common in *Languedoc*. But the Thing which ought to uſed where *Umbilicus Marinus* is ordered is the *Operculum* of the Shell-fiſh before mentioned.

[The *Umbilicus Marinus* is the *Operculum* of the *Cochlea trichiformis, ſtriata, rugoſa, papilloſa. Lang. Meth. Teſt.* 51. *Cochlæa cælata*, *Aldr. De Exang.* 393. *Cochlea cælata, Antonomaſtice dicta*, *Bonan.* 114. It is common in the *Mediterranean*. It has the Virtues of the other Teſtacea, and has been uſed to be hung about Childrens Necks, and as a Preſervative againſt the Cholick.]

53. *Of* Sweet-Hoof.

THE *Unguis Odoratus*, or *Sweet-Hoof*, *Pomet.* is likewiſe the Lid or Cover of a certain Shell-fiſh called *Conchylium*; this is of different Sizes; but for its Shape it reſembles the Claws of ſome Animals. It is thin, of a brown Colour, eaſy to burn, and of an unpleaſant Smell, like that of Horn, which is quite contrary to its Name; and I cannot underſtand what Reaſon the Antients could have to call it *Unguis Odoratus*, as well becauſe it has no Reſemblance to Hoofs, if it has any to the Claws or Talons of any Animal, as becauſe the Scent is ſo far from being agreeable, that it is very ſtinking. *Dioſcorides* calls this Covering *Unguis, ſive Onyx:* This Covering, ſays he, is like to that of the Purple-fiſh. That which is found in the Lakes of the *Eaſt-Indies*, amongſt the Spikenard, is of a very pleaſant Smell, becauſe the Fiſh to which it belongs feeds on this Plant. This Author prefers that which comes from the *Red-Sea*, to that which is found on the Coaſt of *Babylon*, which is blackiſh, and much leſs. They burnt in his Time one and the other for the Vapours, becauſe, ſays he, the Smell comes near to that of *Caſtor*; which confirms what I have ſaid, as the Smell of *Caſtor* and the other are both very disagreeable: Wherefore it ſhould no longer be called *Unguis Odoratus*, but only *Blatta Bizantia*, that is, of *Conſtantinople*. As this is very ſcarce, they ſubſtitute in its Place the *Solen*, both Male and Female, whereof this which follows is the Deſcription.

[The

[The *Conſtantinople Sweet Shell* is the *Blatta Byzantina Arabum. Ald. De Exang.* 346. *Operculum cochlearum marinaram ſubrotundum vulgare. Lang.* 56. It is of an oblong Figure, a tough Conſiſtence, and diſagreeable Smell, and ſerves as a Cover to a kind of Murex or Purple-fiſh.

It is the general Opinion, that this and the *Unguis Odoratus* are the ſame; but whoever will carefully read *Dioſcorides*, will find them to be two entirely different Things, and that the true *Unguis Odoratus* was not an *Operculum*, but a Shell-fiſh, found in the Lakes, made by the Overflowings of the *Ganges* in the *Eaſt-Indies*; it was probably of the *Pectunculus* Kind, and named *Unguis* and *Onyx*, from the Reſemblance to the Nail of the human Finger. We need not therefore wonder, with our Author, at the Name, as not ſuiting what is now ſold under it, as it certainly was never intended for it.]

54. *Of the* Solen, *or* Finger-Shell.

Pomet. THIS is a Shell of two Pieces, that are joined together at one End, from four to five Inches long, and from ſeven to eight Lines in Breadth, hollow like a Spout, arched above, thin, ſquare at the Ends; and which, when joined together, are like a ſmall Trunk, or one of thoſe Caſes wherein they put a Knife and Spoon for the Table. *Rondelet* calls the Male *Solen*, that whoſe Shell is bluiſh, or of a Slate-Colour, and this is agreeable to *Apuleius's* Sentiment; and he calls the Female *Solen*, that which has the white or ruſſet Shell, and which is generally leſs than the other. Theſe two *Species* are very common in the *Mediterranean*. I have gathered them upon the Sands in the Iſles of *Hieres*, and on the Coaſt of *Martigues* in *Provence*, and in *Languedoc*, on the Coaſt of *Peraut* and *Cette*. They meet with, beſides, a kind of *Solen* on the Coaſt of *Normandy*, whoſe Shells are white, inclining to purple; but they are thicker than thoſe of the *Mediterranean*, and about ſeven Inches long, and an Inch broad.

Together with theſe Shells aforementioned, we ſell the Inſide of the Oyſter-ſhells, after they have been calcined to a Whiteneſs, and made into Troches. It is obſervable, that it is difficult to preſerve or keep thoſe Troches whole, becauſe they fall into Powder like Lime. Oyſter-ſhells calcined make very good Lime, which is the Reaſon why the *Dutch* uſe nothing elſe. Some Authors, as *Ettmuller*, in a Treatiſe of his of Animals, ſay, that the Oyſter-ſhells burnt are very proper to cure peſtilential Buboes, being applied upon them: He obſerves, likewiſe, that they ſerve inſtead of Pearl. Beſides theſe Shells there are Abundance of others, which I have not mentioned for three Reaſons: The firſt, becauſe they are not uſed. Secondly, becauſe I have little or no Knowledge of them. And, in the third Place, becauſe Mr. *Tournefort*, who has the compleateſt Knowledge of theſe Curioſities, deſigns, in a little Time, to give the Public an exact Account of them.

Solen, Dactylus, vel Digitus, or the *Finger-Shell*, becauſe of its Reſemblance to a Finger, is a ſmall Shell, ſomething larger than one's Finger, and an Inch thick, made up of two Pieces like the Muſcle, but joined together at the End, and hollow like a Pipe. This contains in it a little Fiſh of the ſame Shape, which when it would feed, puts the Head out at the End of the Shell that is not joined together, and draws it in again like the Tortoiſe. This Fiſh is good Meat, when well waſhed from the Sand, whereof it is full. The Fleſh is a litle viſcous, and it ſometimes caſts a Light like the *Phoſphorus*. The Shell is alkaline, reſolutive, drying, opening, *&c.* being taken inwardly. The Doſe is from half a Scruple to two Scruples. They uſe it externally in ſome Cerats and Ointments, in the Place of the *Dentalium*, which is ſcarce. *Lemery.*

[This is the *Solen*, *Worm. Muſ.* 256. The common Male and Female are the *Solen Maſ. virgatus et ſubcæruleus*, and *Solen fæmina unicolor. Liſter. H. Conch.* 9. 412. The calcined Shell is ſaid to be a good Diuretick, but is never uſed at preſent.]

BOOK II.
Of *FOSSILS.*

PREFACE.

I underſtand by the Word Foſſil, *every Thing that is found in the Bowels of the Earth*; *as* Metals, Semi-Metals, Minerals, Bitumens, Stones, *and* Earths. *As my Deſign is to begin with* Metals, *I ſhall firſt obſerve, that by the Word* Metal, *I mean a Body that is hard, of a Subſtance alike in all its Parts, that may be melted by the Fire, is ductile, and may be extended by the Hammer, and is different from* Minerals, Bitumens, Earths, *and* Stones, *as will be ſhewn hereafter. There is great Diſpute concerning the Number of* Metals; *ſome will have them to be nine, others ſeven, and others ſix; thoſe who make them nine, would have* Quickſilver, Biſmuth, *and* Braſs, *to paſs for* Metals: *But as this Opinion is not well grounded, becauſe* Biſmuth *is not a perfect* Metal, *and* Braſs *is a Compoſition, I ſhall agree with thoſe who have concluded that the Number is ſeven, which anſwers to the ſeven Planets, and the ſeven Days of the Week*; *that is to ſay,* Gold *to the* Sun, *and to* Sunday; Silver *to the* Moon, *and to* Monday; Iron *to* Mars, *and* Tueſday; Quickſilver *to* Mercury, *and* Wedneſday; Tin *to* Jupiter, *and* Thurſday; Copper *to* Venus, *and* Friday; *and laſtly,* Lead *to* Saturn, *and* Saturday. *Some Perſons will have it that* Mercury *is but a* Semi-Metal; *but as I think it not proper to diſcuſs that Matter here, I ſhall refer the* Reader *to the Chapter of* Mercury, *and begin here with* Gold, *which is the chief of all* Metals.

1. *Of* Gold.

GOLD is the moſt perfect of all Metals, which has occaſioned its being called the *King of Metals*, the moſt precious, the heavieſt, and moſt malleable, and of a ſhining yellow Colour. *Gold* is brought from many Parts of the World, but it comes in the largeſt Quantities from the Mines of *Caravana* in *Peru*, and of *Valdivia* in *Chili*, where it is ſo common, that it has been uſed for the ſame Purpoſes as Pewter, Braſs, or Iron are here; and though this is the richeſt Country for *Gold* of any that has come to our Knowledge, yet the Inhabitants are very poor, by reaſon of the Dearneſs of all Proviſions. There are ſeveral other Places where Gold is found; but the greateſt Quantity comes from *Peru*, becauſe there it is moſt frequently found, and is refined with the leaſt Trouble and Expence.

Africa, *Aſia*, and *Europe* produce *Gold* of four different Sorts. The firſt is in Bits of different Sizes, which is ſo fine and ſoft, that you may make an Impreſſion upon it with a Seal, as if it were upon Wax. This natural *Gold* is called *Virgin Gold*. The ſecond is in Grains. The third in Ore. The fourth in Sand. Theſe three laſt Sorts are generally found after great Rains, in thoſe Places through which the Torrents of Water have paſt; and even in the Bottom of Rivers, eſpecially ſuch as have run through Mines of *Gold*; as thoſe of *Datzin* and *Diguvira* in *Africa*, where there are Negroes who make it their whole Employment to ſeach for it in the Bottom of the Rivers. We have *Gold* brought from ſeveral Parts, as *Peru* in tbe *Weſt-Indies*, *Hungary*, and *Germany*, but the laſt is the worſt of all. The Choice of *Gold* is to have it of as fine a Colour, and as pure as may be. The greateſt Part of the *Gold* we have in *France*, comes from *Peru*, whence it is brought in Wedges or Ingots to *Cadiz*, by the *Spaniſh* Galleons. The Company in *France* bring from *Senega* a *Gold* which they call *En Aurillet*. This is wrought by the Savages, which they fetch from the Kingdom of *Galan*, which is near that of *Tombut*. The *Dutch* likewiſe bring *Gold* from *Sumatra*, and other Places of the *Eaſt-Indies*, together with their Peppers, and other Commodities of thoſe Countries. There is yet another Sort of *Gold*, which is that of the *Alchymiſts*, of which I ſhall ſay nothing, becauſe I have no Knowledge

of

of it, leaving it to thoſe who chuſe to amuſe themſelves, and ſeek the Ruin of their Families, in an Operation that does not ſeem to have much Poſſibility in it. By the Means of Chymiſtry, they extract from *Gold* many Things that are uſeful for human Life. The firſt Preparation of *Gold* is the refining of it, which is done after four Manners; to wit, the firſt by Antimony, which is the beſt; the ſecond by the *Cupel*; the third by *Aqua Regia*; the fourth by the *Cement*. They call that which is refined by Lead, and Aſhes deprived of their Salt, or Bones burnt, *Coppel Gold*, which is that the Gold-beaters uſe to make *Leaf Gold* of. That which is refined by *Aqua Regia*, is called *Gold* by *Departure*, or Precipitation. Laſtly, That which is called *Gold* by *Cement*, is that which is refined by the Means of a Paſte compoſed of Brick, common Salt, *Sal Ammoniack*, *Sal Gem*, and Urine. There is a fifth Refinement of *Gold* by *Mercury*; but as theſe Matters are too long to be here particularly deſcribed, I ſhall refer the Reader to the ſeveral Books of Chymiſtry which treat thereof.

Regulus of Gold.

The *Regulus of Gold* is Gold refined by Antimony, and afterwards thrown into a Braſs Mortar, warmed and greaſed in the ſame manner as that into which is thrown the *Regulus* of Antimony. This Operation is ſeldom uſed becauſe of the Charge, and is ſeldom done but by ſuch as have the Curioſity of having Gold that is extremely fine.

Leaf Gold.

What we call *Leaf Gold* is that which is refined by the Cupel, and then by the Help of a certain Kind of Skins, or Beaſts Bladders (which the *French* Workmen call *Baudrucee*) is by Hammering reduced to Leaves extremely light and thin.

It is a ſurprizing Thing to think that a Gold-beater can reduce an Ounce of Gold into 1600 Leaves, each of which ſhall contain ſeven and thirty Lines ſquare. And Monſieur *Furetiere* ſays, that they can reduce Gold into one hundred and fifty-nine thouſand ninety two Times its ſuperficial Size; and the Wire-drawers into ſix hundred and fifty one thouſand five hundred and ninety Times. There are five Sorts of *Leaf Gold* amongſt the Gold-beaters of *Paris*: The fineſt and moſt durable is that which is ſold to the Sword-Cutlers, wherewith they work their gilt and flowered Blades. The ſecond is that which they ſell to Smiths and Armourers to gild their Iron and Weapons. The third is that which is uſed in gilding of Books. The fourth is uſed by Gilders of Wood, and Painters. The fifth is that uſed in Phyſick, which the Apothecaries put into ſeveral of their Powders and Confections, as well for the Virtue of it, as for Ornament.

They grind theſe Leaves of Gold, or the Clippings of them, which they call *Bracteolæ*, with Virgin Honey, and then put them into Muſcle-ſhells; and this they call Gold in Powder, or in the Shell. This Gold, ſo prepared, is uſed for Painting in Miniature.

Aurum Fulminans, *or* Crocus *of Gold.*

The *Aurum Fulminans*, or *Crocus Auri*, is Gold in File-duſt diſſolved in *Aqua Regia*, and precipitated into a brown Powder by Oil of Tartar *per Deliquium* poured upon the Diſſolution. This Powder dried has much more Force, and takes Fire ſooner than Gun-powder. This Preparation of Gold is a Sudorifick very proper in the Small-Pox, given from two Grains to ſix. It is likewiſe good to ſtop Vomiting, and ſuppreſs the too vigorous Operation of mercurial Medicines.

Amalgamation of Gold, *or* Gold-Powder.

The Powder, or ground Gold, is made by calcining Gold with Mercury and *Sal Ammoniack*; this is called *Gold* in *Powder*, or amalgamated, and is uſed by the Gilders, becauſe it ſpreads eaſily. There are ſome who omit *Sal Ammoniack* in their reducing Gold to Powder, and only make uſe of Mercury. There are ſeveral other Preparations of Gold; as Tinctures, Extracts, and the pretended *Aurum Potabile*. But ſince they are not received by the World, I ſhall only ſay what all all agree in, that the greateſt Property of Gold is to give all Sorts of Perfections and Conveniences to him that is Maſter of it.

Gold, in *Latin*, *Aurum*, *Sol*, *Rex Metallorum*, is the moſt ſolid, weighty, com- *Lemery.*
pact, and precious of all Metals. It is generated in many Mines in different Parts of the World; but the greateſt Quantity is brought in Bars or Ingots from *Peru* to *Cadiz* by the Galleons of *Spain*. There is Gold likewiſe found in *Aſia*, *Africa*, and *Europe*, ſometimes in a Maſs, which is called *Virgin-Gold*, ſometimes in Grains, ſometimes in Ore, ſometimes in Duſt or Spangles.

The firſt is called *Virgin-Gold*, becauſe it comes pure out of the Mine, without any further need of Preparation, and is ſo ſoft as to receive the Impreſſion of a Seal, and is found in greater and leſſer Pieces.

The ſecond is in Grains, but not ſo fine as the firſt.

The

The third is a Gold mixed with other Metals, and the Marcaſite or Mineral Stone, which are formed together as a Stone, called *Gold Ore*. The fourth is a Gold in Duſt, or Spangles mixed with Sand.

The three laſt Sorts of Gold are generally found at the Bottom of Rivers, after great Rains and Torrents of Water, and the Negroes either dive for or waſh them out of the Sands.

Gold is refined ſeveral Ways; by the Cupel, by Departure, by Cementation, and by Antimony.

The refining of Gold by the Cupel and Departure, is done after the ſame Manner as that of Silver, of which hereafter.

Gold is refined by Cementation in the following Manner: They make a hard Paſte with *Sal Gem*, and *Sal Ammoniack*, Chalk, and Urine. This Paſte is laid with Gold, *ſtratum ſuper ſtratum*, in a Crucible, which is placed in a Furnace, and a large Fire being made about it, the Matter is left to calcine for ten or twelve Hours, that ſo the Salts may penetrate the Foulneſs of the Gold, and throw it off in *Scoria*; and ſo the Crucible being taken off from the Fire, the Gold will be found ſeparated from the *Scoria*.

Gold is refined by Antimony after this manner: They weigh the Quantity of Gold they would refine, and make it red-hot in a Crucible, by a ſtrong Fire, and then throw in four Times the Quantity of Antimony in Powder; ſoon after which the Gold will melt, for Antimony is full of a ſaline Sulphur, which not only very much augments the Heat, but, piercing into the Metal, divides the Parts very ſpeedily: Then the impure or groſs Matters that were in the Gold is ſwallowed up by the Antimony, to which they readily join themſelves, and ſo ſeparate into *Scoria*, of which the more volatile Parts are diſſipated into Smoke. They leave this Matter in the midſt of a great Fire, till it ſends forth Sparkles, and then they pour it into an Iron Mortar warmed and greaſed, beating it about till the *Regulus* fall to the Bottom. When all is cold, they empty the Mortar, and with a Hammer ſeparate the *Regulus* from the *Scoria*. They weigh this *Regulus*, and put it into a Crucible over a ſtrong Fire, to be melted a ſecond Time; then, by little and little, they throw in three times as much Salt Petre to purify the Gold from any of the Antimony that may happen to remain. They continue a very violent Fire about the Crucible till the Fumes are gone off, and the Gold remains in Fuſion clear and neat: Then they turn it into a Mortar as before; and, when it is cold, they ſeparate the *Scoria* that are found underneath it; then they waſh it, and wipe it with a Cloth. This *Regulus* of *Gold* is as fine as poſſibly can be; and this Way of refining is preferable to all others, when they would cleanſe Gold exactly from other Metals.

The Cupel will cleanſe Gold very well from *Marcaſites*, and even from ſuch Metals as are called imperfect, but not from Silver. This Metal is ſo bound up and joined with Gold, that Recourſe muſt be had to the Departure before it is poſſible to ſeparate them.

Though the Departure ſeparates Gold from Silver; yet when the Gold is precipitated, it generally carries with it ſome Portion of the Silver.

The Cementation often leaves the Gold undiſcharged of ſome Particles of other Metals, and the Salts entring into the Gold, diſſolve a little of it. But Antimony is a Devourer, which ſpares no other Metal but Gold; yea it will oftentimes gnaw off ſome little Portion of it, and by that Means create ſome Diſpleaſure to the Refiner.

The Degrees of the Fineneſs of Gold are called Carats: A Carat of Gold is of the Weight of a Scruple, and by conſequence twenty four Carats make an Ounce.

Gold that is entirely fine, is called Gold of twenty four Carats; becauſe if you put an Ounce of ſuch Gold to the Proof, it will not be diminiſhed: But if an Ounce of Gold will waſte a Scruple in the Proof, it is Gold of twenty-three Carats; if it waſte two Scruples, it is Gold of twenty-two Carats, and ſo of the reſt. But many Refiners believe that there is no Gold of twenty-four Carats; for let them refine it never ſo well, there will ſtill remain ſome light Portion of Silver. Gold eaſily mixes and unites with Quickſilver, and this is what is called *Amalgama* of Gold. To make it, they put Gold cut into very minute Pieces into a Crucible, leaving it to be red-hot; to this they put eight times as much Quickſilver, ſtirring it with a ſmall Iron Rod, and when they find it incorporated, they caſt it into an earthen Veſſel full of Water, where it cools and remains ſoft as Dough. They waſh it ſeveral Times to take away the Blackneſs, they then ſeparate the ſuperfluous Mercury, that is not well united to it, by putting it into a Cloth, and preſſing it gently with the Fingers. They throw a great deal of Quickſilver upon Gold, that it may charge itſelf with it as much as poſſible; for the more Mercury enters into the Amalgama, the ſofter it will be, and the more pliable; but Gold can receive no more than a certain Quantity, becauſe when its Pores are once full, the reſt that is added is uſeleſs.

The Amalgama of Gold is uſed by the Gilders, becauſe it is eaſily ſpread over the Work prepared for it.

Gold, when refined, will be extended by the Hammer more than any other Metal. The Gold-

beaters

Beaters reduce it into very thin Leaves, which they put into little Books. Theſe Leaves of Gold are uſed for Gilding. They are uſed likewiſe in compounding of Medicines, and are preferable to all other Preparations of this Metal; not only becauſe they are eaſily mixed, but becauſe they appear like Spangles, which beautify and ſet off the Compoſition.

As Gold is the moſt weighty, the moſt compact, firm, and beautiful of all Metals, ſo it has likewiſe been eſteemed the moſt perfect; and a numerous Sect of Philoſophers, called Alchymiſts, have thought that the Production of Gold was the principal Deſign of Nature in all Mines; and that it had been obſtructed from its due Courſe by ſome Accident, when it produced other Metals. But this Opinion is not approved by all; and one may very reaſonably believe that Iron, Lead, Copper, and other Metals, that are called imperfect, have the Perfection which they ought to have, according to their own Nature, as well as Gold. This Sentiment of the Alchymiſts has led them into another Chain of Reaſonings, which are not more juſt than the former: They believe that they can perfect the imperfect Metals, by ſupplying the Failure of Nature, and conſequently that they can make Gold. It is this Operation, which they call the Great Work, or the Search of the Philoſophical Stone. To arrive at which, ſome of them make a Mixture of theſe Metals with ſome Matters proper to refine them, and calcine them a long Time in a ſtrong Fire, to arrive at their Perfection, as if Nature had wanted Heat to produce them.

Other put Metals into a Digeſtion upon the Fire, in ſaline and piercing Liquors, ſo to draw out the Mercury, which they ſay is a Matter diſpoſed to be reduced into Gold.

Others ſeek for a Seed of Gold in Gold itſelf, and believe they ſhall find it there, as they do the Seed of a Vegetable in a Vegetable, and that of an Animal in an Animal. To accompliſh this, they endeavour to open Gold by Diſſolvents; and they put it to digeſt by the Fire of a Lamp, or the Heat of the Sun, or that of Smoke, or Fume, or ſome other Degree of Heat, always equal, which approaches neareſt to that which Nature makes uſe of.

Others look for the Seed of Gold in the Minerals, as in Antimony, where they pretend there is a Sulphur and a Mercury like to that of Gold. Others hope to find it in Vegetables, as in Honey, Manna, *Roſa Solis*, and Roſemary; and others in Animals, as in the Spittle, the Blood, the Brain, the Heart, and the Excrements.

Others imagine they can catch the Seed of Gold, by fixing the Rays of the Sun after a certain Manner; for they look upon it as a thing inconteſtable, that the Sun is Gold melted in the Center of the World, and that it is cupelled by the Fire of the Stars that ſurround it; and that the Rays which it caſts, and that ſhine on all Sides of it, are the Sparkles which riſe from it, after the ſame Manner that they do in refining Gold by the Cupel.

I ſhould enlarge too much, if I would here repeat all the Fancies of the Alchymiſts, and the Manners of Working, which they have invented to arrive at the Perfection of their Deſigns. They have ſpared neither Time, Pains, Watching, Care, nor Money; and a great many of them having ſpent the better Part of their Life in this Labour, have ſo exhauſted their Spirits, their Healths, and their Pockets, that they have fallen into a deep Melancholy, Madneſs, incurable Diſeaſes, and a moſt miſerable Poverty.

But the ill Succeſs of theſe Alchymiſts has not hindered other Perſons from entering the ſame Liſts; the Hopes with which they flatter themſelves, that they ſhall find the Means of making Gold does ſo far prepoſſeſs their Minds, that they become incapable of thinking ſeriouſly of any other thing than what may contribute to the grand Work. They think no body reaſons ſo well as the Alchymiſts. They treat all People that do not come up to their Sentiments as Infidels, and they aſſume to themſelves, excluſive of all others, the Name of the true Philoſophers, or the Philoſophers, by way of Excellence. If they ſpeak, it is by Monoſyllables; if they explain themſelves, it is in ſuch obſcure Terms, and heightened Expreſſion, that very often they do not underſtand themſelves. If they write, it is that it may not be comprehended. If they work, it is with Myſtery, giving ſublime Names to all the Ingredients they make uſe of. Gold is by them called the Sun; Silver, the Moon; Tin, Jupiter; Lead, Saturn; Sal Armoniack, the ſolar Salt, or the Mercurial Salt of the Philoſophers; Nitre is *Cerberus*, or the infernal Salt; the Spirit of Nitre, the Blood of the *Salamander*; Antimony, the Wolf, or the Root of the Metals, or *Proteus*; and ſo of the reſt. Their Preparations are all philoſophical; and even the Bricks of which they build their Furnaces participate of that Quality. Beſides, theſe Gentlemen look upon themſelves to be far above all other Perſons. They think they are the Depoſitaries of the richeſt Secrets of Nature. They explain every thing to their own Advantage; and, according to their own Prejudices, they call themſelves the Holy Nation, and the elect People. King *Solomon*, according to their Opinion, was of the Sect of Alchymiſts, becauſe Gold was ſo common in his Days. And the Spirit

of God which ſwam upon the Water, and is ſpoken of in *Geneſis*, was the univerſal Spirit of which Gold is made. I could relate a great many more of their Opinions, as extravagant as theſe, but I am afraid of growing tedious to the Reader.

That which the Chymiſts aſpire to by their great Labour is, as I ſaid before, to find out the Seed of Gold. And ſeveral of them pretend that they have attained to it, and are in full Poſſeſſion of it, and it is this which they call the Powder of Projection. They attribute to it the Virtue of turning any Metal whatſoever into Gold; but we ſee no Experiments of this pretended Fact: Thoſe that have been made upon ſeveral Occaſions, have been only Tricks, or Slight of Hand, by which they throw Duſt into Peoples Eyes, and engage them to blow the Bellows, and bear Part of the Charges with them.

It is eaſy to apprehend that the Seed of Metals is not to be found in them, becauſe their Production does not arrive by Vegetation, as in Plants, but proceeds from a Congelation that is made by Waters, loaded with Salts of different Natures, and ſulphurous Earth, as they have acknowledged who have wrought in them.

The Alchymiſts ſay, that their Seed of Gold is a Mercury which they have drawn from Metals; but beſides that it is ſtill a Queſtion, whether they can draw a Mercury from Metals, it is not probable, that if they can draw it, it ſhould be the Seed of Gold.

They affirm likewiſe, that the Seed of Gold is in every thing, that it abounds in the Spirit of the Univerſe, and that Dew, Manna, and Honey, having the Impreſſions of the Spirit, the Seed of Gold may therefore be drawn out of them. We agree with them, that the Univerſal Spirit ſerves to the Production of Gold, as it ſerves to that of other Mixtures; but it is by an Acid that it contains, and not by a Seed, at leaſt the Name of Seed is never given to this Acid; and then there is no more Reaſon to think that the Univerſal Spirit abounds in the Seed of Gold, any more than in the Seed of the groſſeſt Mineral, the moſt uſeleſs Plant, or the moſt deſpicable of Animals.

Although all the antient Authors have eſteemed and preſcribed Gold as the greateſt Cordial, when taken inwardly, yet we do not find this Virtue to be in it; for Experience ſhews us, that it paſſes by Stool in the ſame Weight and the ſame Condition in which it was taken, becauſe it is too hard to be penetrated and digeſted by the weak Acids of the Body: But it is however proper, and very convenient for them who have taken too much Mercury, for it amalgamates with it in the Body, and fixes it in ſuch a Manner, that it hinders it from acting as it did before. And this Mixture is afterwards thrown out by Stool or Urine. It is likewiſe good for Colick Pains of the Glaziers and Plumbers, which are cauſed by the Vapours of their Lead.

Mercury clings ſo eaſily to Gold, that if a Perſon ſalivated with Mercury has any Pieces of Gold in his Pocket, they will commonly grow white in a little Time, without his touching them. But this Mercury is expelled by putting the Gold in the Fire, and afterwards rubbing it with a little Oil of Tartar.

The *Aurum Potabile* of the Chymiſts is nothing but a Chimæra: They pretend that they can reſolve Gold into its firſt Principles, and ſeparate the Salt and Sulphur of it, ſo that they cannot be revived into Gold any more than the Oil and Salt that are drawn from a Vegetable, can be put into the ſame Plant again. They call theſe pretended Salts and Sulphurs of Gold, potable Gold, becauſe they can be diſſolved in all Sorts of Liquors, and be taken as a Potion: They attribut to it the Virtue of being a Preſervative againſt all Sorts of Illneſs, and ſay that it cures all Diſeaſes, prolongs Life, and, in a word, is the univerſal Medicine.

The noble Qualities of the *Aurum Potabile* are grounded upon many other Chimæras. The Alchymiſts and Aſtrologers affirm, that there is a great Correſpondence, and a peculiar Intercourſe between the Sun and Gold, by the Influences which they communicate one to the other; and that Gold is therefore conſequently impreſt with the Influences of the Sun: That the Sun is the Heart of this great World, and having that Quality, it ought, by the means of Gold its ſubſtitute, to diſplay its Virtues over the Heart of the little World, which is that of Man. That the Quality of the Sun is to warm, revive, rejoice, and cleanſe the Body from all ill Humours, and to render Life happy, long, and free from Diſtempers: That all their Principles being certain, there is no Room to doubt that Gold has theſe excellent Virtues; but that as this is a Body very hard and ſolid, its Qualities are ſo encloſed and concentred, that they cannot be well perceived without reducing them to their firſt Principles, which are the Sulphur and the Salt that they call *Aurum Potabile*.

It is not difficult to confute all theſe Arguments; they are ſo weak, and have ſo little Foundation, that they fall of themſelves. *Firſt*, The Alchymiſts take it for granted, without proving it, that Gold can be reſolved into its firſt Principles, ſo that Salt and Sulphur may be drawn out of it; but this Metal is really ſo ſolid, and ſo conjoined in its inſenſible Parts, that they could never find

find a Means to diſſolve it radically, nor to ſeparate any of its Principles, notwithſtanding all their Pains and Application. They extend, they divide, they attenuate, they rarify it, into inſenſible Parts, by Means of their Diſſolvents, but hitherto they have done nothing but diſguiſe it; for it ſtill remains entire Gold, and is ready to be reduced to its primitive State by Fuſion. The other Preparations of Gold, which ſome Perſons would put upon us for the Salt and Sulphur of this Metal, are found, when ſtrictly examined, to be nothing elſe but Gold extremely rarified, diſſolved, and diſguiſed by ſome Ammoniacal Salt; but this Gold is revived again, by freeing it from this Salt, and making it paſs through the Fire.

Nay, though in Proceſs of Time they ſhould come to be able to diſſolve Gold radically, ſo as to extract the Salt and Sulphur, yet it would ſtill remain a Queſtion, what would be the Virtue of theſe Principles? Which could only be known by the Experiments that ſhould be made with them; but there is Room to believe, that the Effects would be different from what they would perſuade us. The Intercourſe of Gold with the Sun, and the peculiar Influences that they would have it receive from thence, are Fancies, which carry no Probability with them: We ſee the Sun diſplays its Warmth and Rays upon all Bodies, without any Appearance of its making a Diſtinction.

Although there is no *Aurum Potabile* in the World, and that it is uncertain what Effect it would have could we find it, yet the very Name of *Potable Gold* impoſes upon a great many People, and gives an Opportunity to Mountebanks to cheat them with Impunity; for they draw Tinctures from ſome Ingredients, whoſe Colours come near to that of Gold, and ſell them at a very great Rate, under the Title of *Aurum Potabile*. This Sort of Cheat is what generally ſucceeds beſt; for Patients are prepoſſeſſed in Favour of ſuch Medicines as carry great Names, and have a ſpecious Appearance: Men are likewiſe apt to cry up that which is dear. So the Name and the Price gains an Eſtimation. It likewiſe often happens, that theſe Tinctures, which go by the Name of *Aurum Potabile*, produce ſome good Effect, becauſe they can take care to make them with ſuch ſpirituous Menſtruums, as comfort the Heart, and expel ill Humours by Perſpiration; then it is cried up for a Miracle, and the Effect is attributed to the Gold, which can have no Share in it, as having never entered into the Liquor.

Others, who are leſs Cheats than thoſe I have ſpoken of, diſſolve Gold in ſome ſpirituous Liquors, after the common Manner; and as the Diſſolution of Gold is always yellow, they make it paſs for the true *Aurum Potabile*, altho' it is only Gold divided, and may be reduced to the ſame State that it was in before.

Beſides, I cannot ſee that the Perfection of Gold muſt neceſſarily give it the Preference in Phyſick to other Metals; on the contrary, this Perfection, being an exact Contexture of the Parts, and a very great Solidity, is a Reaſon why this Metal is ſo much the leſs diſpoſed to be digeſted and diſtributed into the Veſſels of the Body; Iron, Mercury, and the other Metals, which are called imperfect, are much more tractable, for we put them into a Way of penetrating through the whole Body, and producing conſiderable Effects: What is Perfection with the Workman, is often an Imperfection with the Phyſician; and we make better Uſe of the mixt Bodies, whoſe Principles are naturally rarified and diſſolvable, than of thoſe, which through too much Firmneſs are rendered, as it were, incorruptible.

[To what has been already obſerved, it may be added, that Gold is often found in Orpiment, in a kind of *Pyrites*, of an aſhy purpliſh Colour, and hid in the Ores of other Metals, eſpecially Silver.

Gold, in all common Fires remains fixed, and even when expoſed to the Focus of the ſtrongeſt Burning-Glaſs, ſuffers that Heat a great while before it begins to evaporate: it never contracts Ruſt, and is only diſſoluble in *Aqua Regia*, but may be calcined by common Sulphur if ſet on Fire and flaming. The Analyſis or Reſolution of this Metal, has hitherto been attempted without Succeſs; its Sulphur and Earth are ſo ſtrictly united as not to be ſeparable by the common Powers of Fire, and before the Burning-Glaſs entire Parcels of it fly off, without any apparent Reſolution into its Principles.

The Uſe of Gold in Phyſick was unknown to the antient *Greeks*; the *Arabians* firſt gave it inwardly, imagining it muſt have great Virtues, but in all Probability it has really none, and the preſent Practice knows it in no other Intention, than the gilding Pills and Boluſes.]

2. *Of* Marcaſites.

UNDER the Name of *Marcaſite*, according to Monſieur *Morin*, Doctor of Phyſick of *Montpellier*, is to be underſtood a metallick Mineral, which is loaded with Sulphur and Earth. This in the Fire ſwallows up the metallick Matter which gets looſe, and the Sulphur carries up with it Parts which being more ſubtil, mercurial, and leſs fixed, are evaporated; *Pomet.*

ſo that there remains nothing but a Body, which is vitrified and uſeleſs.

Altho' from this imperfect Mineral, no Metal can be drawn by Fuſion, whatever elſe be mixed with it to promote the Separation, yet it is much ſearched into by all true Chymiſts, and preferred to thoſe from which Metals may be extracted, which ſome improperly call *Marcaſites*; and it is with juſt Reaſon, for the Principles not being yet well united, it is the leſs difficult to ſeparate them, and conſequently to determine and multiply them by their Operations.

They who work in Mines throw theſe Subſtances by, and ſeparate them from the Ore, which is ſo much the better, by how much the leſs Earth and Sulphur there is in it.

It is eaſy to conceive, that each Metal has its proper *Marcaſite*; which is, as it were, its Seed or Bud; and the more it ferments, and the nearer it approaches to a metallick Perfection, the farther it recedes from the Nature of a *Marcaſite*.

It muſt nevertheleſs be obſerved, that we ſell commonly but three Sorts of *Marcaſite*, which are thoſe of Gold, of Silver, and of Copper. That of Gold is uſually a little round Ball, very weighty, and difficult to break. That of Silver is almoſt of the ſame Make, but is not ſo high coloured. That of Copper is either round or long, and oftentimes irregular, and of the Largeneſs of a Tennis Ball. This *Marcaſite* is very hard, but if you leave it in a moiſt Place, the Moiſture will penetrate it, and turn it all to Vitriol, and ſo it comes to nothing. When you break in Pieces theſe *Marcaſites* of Copper, they are of a yellow Gold Colour, and radiated like a Sort of Sun. Theſe are the Deſcriptions of the *Marcaſites* we commonly ſell, but for thoſe of Iron, Tin, and Lead, I cannot, to this Day, learn poſitively what they are. There are ſome who affirm poſitively that the Load-Stone is the *Marcaſite* of Iron; the Biſmuth, or natural Tin-Glaſs, that of Tin; and the Mineral Zink, or Spelter, that of Lead. And there are others who ſay that Tin and Lead are the ſame thing, and differ only in Colour, grounding themſelves upon this, that the Antients called Tin White Lead, and Lead Black Lead, ſo that there cannot belong to them two Sorts of *Marcaſites*; and my Sentiments muſt concur with theirs; ſeeing it has not been poſſible for me to find any natural Biſmuth or Tin Glaſs, as I ſhall ſhew hereafter.

It is remarkable, that tho' I ſay we ſell but three Sorts of *Marcaſites*, yet there are very few large Druggiſts Shops where there are not found ſeveral other Sorts, as the ſquare, the flat, the grey, the black, the yellow, and the like. And this happens, becauſe they give the Name of *Marcaſite* to every thing they do not know, and take to be Mineral; and the Buyer, not knowing what it is, any more than he that ſells it, it often happens, that they who work it are deceived, and loſe their Labour.

I have by me a white *Marcaſite*, full of Veins of Gold, which was brought from the *Iſles*, and was affirmed to me to be true Gold Ore.

Lemery. The *Marcaſite*, is a metallick Mineral, of which there are ſeveral kinds; for all Stones which contain more or leſs of a Metal are called by this Name. But three Sorts are more principally intended by the Word *Marcaſite*; that of Gold, that of Silver, and that of Copper.

The two firſt are in little Balls, of the Bigneſs of a Nut, almoſt round, weighty, browniſh without, but of different Colours within; for one has the Colour of Gold, the other of Silver, but both bright and ſhining.

The *Marcaſite* of Copper is as large as a little Apple, round or oblong, brown without, yellow and cryſtalline within, bright, ſparkling, and eaſy to be broken.

The *Marcaſites* are taken out of the Mines. They contain a great deal of Sulphur and vitriolick Salt, eſpecially that of Copper.

[The *Marcaſites* of the *Arabians*, were the various kinds of the *Pyrites*, and ſince their Times various imperfect Ores have been known in the Shops, under the Name of *Marcaſites*, with the Addition of that of the Metal they were ſuppoſed to belong to, but what is now kept there, under the Name of *Marcaſite*, without any Addition, is Biſmuth or Tin-Glaſs, of which we ſhall treat hereafter.]

3. *Of* Silver.

Pomet. SILVER, which the *Spaniards* of *Peru* call *Plata*, is the beſt and moſt perfect Metal next to Gold. It is white, hard, extenſible, and very agreeble to the Sight. It is alſo called *Luna*, becauſe of its bright white Colour, and the Influences it was ſuppoſed to receive from that Planet. The moſt famous Mines for Silver are thoſe of *Rio de la Plata*, that is the *River of Silver*, and of *Potoſi*, in *Peru*, which were diſcovered in the Year 1545. The Encloſure which bounds the Extent of them, is called *Potoſi*, which is a Mountain ſituated in a flat Champain, riſing in the Form of a Sugar-Loaf, above a League in Circuit below, and a Quarter of a League on the Top. The Silver coming out of the Mine is refined with Mercury, or Quickſilver; and there have been ſome Years in which they have taken out of

of theſe Mines three hundred thouſand Weight of Silver, pure and neat; for the refining which they made uſe of ſix or ſeven hundred thouſand Weight of Quickſilver; for the more they refine it with Quickſilver, the better it is. There are ſeveral other Silver Mines in the *Indies*, in *Europe*, and even in *France*.

Silver is of itſelf a very pure Metal, and eſpecially when it has been well refined, the Chymiſts perform ſeveral Operations upon it; the firſt of which is its Purification.

Purification of Silver *by the Cupel.*

Silver purified by the Cupel, is Silver which is put into melted Lead, and by means of the Fire, and a certain Quality inherent in it, the Lead works upon the Silver as the White of an Egg does upon Sugar, ſeparating all its Droſs when it is well refined. They granulate it after the Manner that we ſee it, which, if it be Proof, ought to be well refined, white, and very ſhining. This ſort of Silver is made uſe of in ſeveral of the following Chymical Operations.

Of the Cryſtals of Silver, *or the Vitriol of* Luna.

They extract the Cryſtals of Silver from cupelled Silver diſſolved in Spirit of Nitre, when the Moiſture is almoſt evaporated, they take out the Cryſtals, which being applied to the Fleſh, make an *Eſchar*, as the *Lapis infernalis*.

Of the Lapis Infernalis, *or the* Silver Cauſtick.

The *Infernal Stone* is ſo called, becauſe of its burning Quality, and its black Colour. It is made of cupelled Silver diſſolved in Spirit of Nitre, afterwards perfected by the Fire, and poured into a Mould, warmed and greaſed on the Inſide, where growing cold it coagulates, and becomes a Stone of the ſame Shape that the Mould has given it.

This Stone ought to be made choice of in little Pieces of a Finger's Length, dry and ſolid, of a brown Colour, approaching to that of Iron, which will neither burn the Fingers nor Paper, unleſs moiſtened, and does not melt, when expoſed to the Air, without Difficulty, but will immediately burn any Place that is moiſtened as ſoon as it is laid upon it; which are the true Marks of the *Infernal Stone*, when rightly prepared with the cupelled Silver. You ought to reject that which is green, and turns the Paper it is wrapt in of that Colour, that grows wet, and is eaſily diſſolved in the Air, becauſe it is made with Copper. Some uſe the common Plate Silver, or the Burnings of old Silver Lace, but the Stone they make is not ſo good as the other. This Stone is much uſed by Surgeons to burn and conſume dead and ſuperfluous Fleſh; but ſpecial Care muſt be taken not to touch the ſound Fleſh, becauſe the Stone will not fail to burn it, and cauſe an Extremity of Pain, eſpecially if the Place be wet.

The *Lapis Infernalis* has the Property of ſtaining Marble, and entering into it; ſo that upon ſawing the Marble, the ſame Figure ſhall appear within that was on the Outſide, and will never wear out. You work with it as if it were a Crayon, and the Colour it makes is black.

Of the Tincture *of* Silver.

The *Tincture* of *Silver* is a Diſſolution of Silver in Spirit of Nitre, which they precipitate by means of a Solution of Salt; then they put this Silver *Calx* into Spirit of Wine acuated with volatile Salt of Tartar, and volatile Salt of Urine, and thence draw a beautiful, celeſtial, blue Tincture, very much recommended againſt the Epilepſy, the Palſy, Apoplexy, and the other Diſeaſes of the Brain. The Doſe is from ſix to fifteen or ſixteen Drops.

Silver, in *Latin Argentum*, or *Luna*, *Lemery.* is a Metal very compact, weighty, hard, white, ſmooth, and ſhining, very extenſible by the Hammer; and reſiſting the Cupel. It is taken from ſeveral Mines in *Europe*, but the greateſt Quantity comes from *America*, and eſpecially from *Le Rio de la Plata*, in *Peru*, where it is often found intermixed with ſmall white cryſtalline Stones, and with Gold, Copper, or Lead. Being taken out of the Mine, it is refined with Quickſilver, and then tranſported. They who would render it as fine as poſſible, refine it by the Cupel, and by Departure, in the following Manner:

They make the Cupel red-hot in the Fire, and they put four or five Times as much Lead as Silver to cupel it; they let the Lead melt, and extend itſelf, ſo that one Part of it, in a little Time, enters into, and fills the Pores of the Cupel; they caſt the Silver into the midſt of the Cupel, where it is not long before it melts; they blow the Fire till it is ſo ſtrong, that the Flame encompaſſes the whole Matter; then all the Impurities unite with the Lead, becauſe that Metal being ſulphureous, it cleaves to and embraces the groſs Bodies better than the Silver. The Fire drives the impure Mixture to the Circumference, in the ſame manner as Scum, or *Scoria*, and the Silver remains fine and clean in the Middle. They know

know that the Refinement is perfected, when no more Fume ariſes; then they pour the Silver into a Mould, to let it cool, and this they call Silver of the Cupel. The *Scoria* of Silver, mixed with Lead, make the Litharge, of which I ſhall treat hereafter. Theſe *Scoria* conſiſt of the Parts of ſome other Metals, or the Marcaſites which were mixed with the Silver when it is taken out of the Mine.

It is to be noted, that Silver, being thrown into melted Lead, runs ſooner into a Fuſion, than if it were put alone to melt in a Crucible, becauſe the ſulphureous Parts of Lead contribute to the ſpeedy Fuſion of Metals.

This Purification of Silver clears it from all other Metals but Gold, which likewiſe reſiſts the Cupel, ſo that one cannot be altogether aſſured that this Silver of the Cupel is entirely Silver; therefore if one would ſeparate it from any little Quantity of Gold that may be in it, Recourſe muſt be had to another Operation, called the *Departure*, and this is the Manner of Proceeding.

They melt together in a Crucible by a ſtrong Fire, three Parts of Silver, and one Part of Gold: They throw this Mixture, when melted, by little and little, into cold Water, where it coagulates into Grains; they throw away the Water, and dry theſe Grains, and then put them to diſſolve in two or three Times as much *Aqua Fortis*; the Silver is diſſolved, and the Gold is precipitated to the Bottom of the Veſſels, becauſe it cannot be penetrated by this Diſſolvent.

It is to be remarked, that in this Operation they mix Gold with the Silver, that if the Silver ſhould contain any ſmall Quantity of Gold, it might be drawn precipitated along with that which was added. This precipitated Gold is called *Gold by Departure*, and they can eaſily turn it into an Ingot, by melting it in a Crucible over the Fire, with a little Borax, and pouring it into a Mould.

This Diſſolution of the Silver is thrown into an earthen Veſſel, in which there is a great deal of Water, and a Plate of Copper, where it is left for five or ſix Hours, or till all the Silver is precipitated, and ſticks to the Copper Plate, and then they gather it together and dry it; and it is this they call the Precipitate of Silver, and ſometimes the Calx of Silver. The Water in which this Precipitation was made, becomes blue, becauſe of ſome Portion of Copper diſſolved in it, and is called the *Second Water*; it is uſed to deterge, and to eat proud Fleſh, being applied outwardly.

Silver alſo may be precipitated, by mixing Salt Water in the Diſſolution; for the Sea Salt will produce the ſame Effect as the Parts of the Copper, that is to ſay, by puſhing rudely againſt the Points of the *Aqua fortis*, which hold up the Particles of the Silver, it will break them, and make them let go their Hold, ſo that the Silver having nothing to ſupport it, will, by its own Weight, fall to the Bottom.

The Silver, ſo precipitated, is caſt into an Ingot, by melting it in a Crucible, with a little Salt-Petre, and afterwards pouring it into a Mould. This Silver is the fineſt of all, and of twelve Penny-Weight, if it has ſo much; but there is always ſome little Allay of Copper to be found in Silver, let it be never ſo well refined.

That which is called *Carat* in Gold, is a Penny-Weight in Silver; ſo an Ounce of very fine Silver is of twenty Penny-Weight, or twenty-four Scruples. which make twenty-four Times twenty Grains. This Ounce of Silver ſhould not be diminiſhed by the Proofs; but if it loſe a Scruple by the Cupel, the Silver is but of nineteen Penny-Weight ſixteen Grains; if it loſes two Scruples, it is ſeventeen Penny-Weight twelve Grains; but they do not expreſs themſelves by twenty Penny-Weight in Silver, as they do by twenty-four Carats in Gold; for they double two Pence in Silver, and ſay Silver of twelve Penny-Weight, to expreſs Silver of the utmoſt Purity; Silver of eleven Penny-Weight and an half, Silver of eleven Penny-Weight, to denote the Degrees of its Fineneſs, and ſo of the reſt.

Plate Silver contains one Part Copper to twenty-four Parts Silver; and Silver of the Cupel has but one Quarter Part Copper, to twenty-four Parts of Silver.

They beat the pureſt Silver, and reduce it into very fine and thin Leaves, which we make uſe of in Medicine. One may likewiſe uſe the Precipitate of Silver inſtead of theſe Leaves.

Silver is proper for thoſe who have uſed too great a Quantity of Quickſilver, either by Frictions, or taken inwardly, for it binds or amalgamates itſelf with it in the Body, and depriving it of its Weight, takes away its Virtue. It may be taken from four Grains to a Scruple, and a larger Doſe may be given without Fear of any Danger. It is pretended by ſeveral Authors to be an infallible Medicine for Diſeaſes of the Head and Brain; but Experience ſhews us, that it is of no Uſe in ſuch Caſes.

The Aſtrologers and the Alchymiſts call it *Luna*, becauſe they imagine this Metal to be of the ſame Matter as the Moon, and that it receives continual Influences from her for its Nouriſhment.

[Silver, as found in the Mines, is diſtinguiſhed into native, and rude; the native is that which is found pure in the Mine, either in Fiſſures of Rocks

Rocks or Stones, or mixed with Sand or Earth without Stones. This is ſeen in many various Forms, in ſmall oblong Veins, fimbriated, in ſmall Filaments like Hairs, granulated, in the Form of Branches of Trees and in large Maſſes. Rude Silver is that which is found in Ores and muſt be refined by Fire: The Silver Ores are in ſome Mines red, which is occaſioned by their being mixed with Arſenick, in ſome of a Lead Colour, which is owing to the Sulphur contained in them, in other Black, Purple, Aſh coloured, *&c.* according to the different Subſtances they are mixed with; it is alſo found in Gold, Copper, Tin, and Lead Ores in different Quantities. Almoſt all the Lead Mines in *England* contain more or leſs Silver, but the richeſt are thoſe in *Cardiganſhire* in *Wales*. Silver is eaſily ſeparated from Lead, as obſerved by our Authors, but the extracting it from the *Peruvian* and *Mexican* Ores is much more difficult, becauſe the Ores are hard, and mixed with vitriolick, arſenical, or other Subſtances, which carry off with them a conſiderable Quantity of Silver, or burn it to *Scoria* with themſelves.

Silver is harder, and leſs ductile than Gold. Its ſpecifick Gravity to that of Gold is a little leſs than as five to nine, ſo that it is lighter than Lead; it never contracts Ruſt, and is diſſoluble by *Aqua fortis*, and not by *Aqua regia*. It is not deſtroyed by Lead, but being long expoſed to a ſtrong Fire with Antimony, is ſomething diminiſhed by the ſulphureous Parts of that Metal. When expoſed to the Focus of a great Burning-Glaſs, it flies all off in Smoak but very ſlowly, and does not vitrify, as many other Metals do; the Solution of pure Silver is limpid, and its Cryſtals are of no Colour, but if it contains any Copper the Tincture is greeniſh or blueiſh, the Taſte of the Cryſtals is intenſely better. Silver made to mix with common Salt, melts into a ſemi-deaphanous Maſs reſembling Horn; this is called *Luna cornea*, and it is very difficult to reduce it to Silver again, becauſe being volatile, if it be expoſed to a ſtrong Fire it flies almoſt all off in Vapour. Notwithſtanding all that has been ſaid by the *Arabians*, and ſince them by the Chymiſts, in Praiſe of the medicinal Virtues of Silver, it is yet a very great Queſtion whether it really has any or not, and the principal Uſe made of it in the Shops, is in the Leaf to cover Pills and Boluſes, inſtead of Leaf Gold, which is ſo often adulterated, that many fear to uſe it. It is alſo to be obſerved, that all the blue Tinctures of Silver, ſo highly commended by the Chymiſts, are not Tinctures of Silver but of the Copper contained in Silver; and therefore very unfit for internal Uſe, for a true Tincture of Silver muſt be altogether colourleſs, like Water.]

4. *Of* Iron, *or* Mars.

IRON, which the Chymiſts call *Mars*, becauſe of the Influences they pretend it receives from that Planet, is a Metal the hardeſt, drieſt, and moſt difficult to melt of all others. It is compoſed of an Earth, a Salt, and a Sulphur, ill digeſted, and ill united, which makes it ſubject to Ruſt. There are Mines of Iron in *Spain*, *Germany*, *Sweden*, and *England*. The beſt in *France* are thoſe of *Champaigne*, *Lorain*, and *Normandy*. There are ſome in *Burgundy*, *Berry*, and other Places. An Iron Mine is ſometimes found within an Inch of the Surface, ſometimes one, two, three, four, five, or ſix Feet deep. The Ore is found in different Manners, ſometimes in Pieces, and ſometimes in Sand. I ſhall not diſcourſe here of finding out Mines by the Jugglers with a Rod of Hazel, becauſe Monſieur the Abbot *de Vallemont* has lately written a very exact Treatiſe about it. *Pomet.*

The Manner of taking Iron *from the Ore, and making it into caſt Iron, and commonly called Sow-Metal.*

After the Ore is taken from the Mine, they waſh it in a running Water, to ſeparate the Earth from it, and then carry it into large Furnaces, where covering it with Coals, Flint-Stones, and Potters Clay, or Earth, by the means of two large Pair of Bellows wrought by a Water-Mill, it melts like Lead; and after ſcumming from it a Droſs, which when cold becomes like Glaſs, they ſtay the Bellows, and with an Iron Bar open a Hole which is in the Bottom of the Furnace, and immediately there comes out as it were a Stream of Fire, which runs into Holes made in the Nature of Moulds, of ſix, ſeven, or to ten Feet long, and a Foot broad. The Iron, thus thrown into theſe Moulds, is what the Smiths call Sow-Metal, or caſt Iron. It is to be remarked, that when they would make Cannon-Bullets, Mortars, Weights, Backs of Chimneys, or other Works, of this Sow-Metal, or caſt Iron, they take up the running Metal in great Iron Ladles, and put it into Moulds made in deep Sand, or elſe of caſt Iron.

It is alſo to be obſerved, that the finer the Work is to be, the longer is the Metal to remain in Fuſion; for the Matter continues but twelve Hours for the coarſer Works, and fifteen or eighteen Hours for the other. The caſt Iron of *France* cannot be touched by the File, as that of *Ger-*

many

many and other Places, but muſt be poliſhed with Maſons Duſt, or Emery.

Of Iron *in Bar, and other Kinds.*

When they would reduce this Metal into fine Iron, they take one of theſe Lumps of Sow-Metal, and carry it to a Sort of Forge, on a Level with the Earth, in the Middle of which is a Hole, into which the Matter flows as it melts. They melt the Metal by the Means of Charcoal, and two great Pair of Bellows, which are moved by Water. As this Matter melts, the Refiner ſtirs it with an Iron Bar; and the more vigorouſly the Matter is ſtirred, the more kindly will the Iron be, and be better qualified. After it is well ſtirred, they carry the Matter, when a little hardened, with large Tongs, to an Anvil, where, with a great Hammer, they beat it, to force out of it the Earth or other foreign Matter that might have remained in it; and then the Iron is made, and will endure the Filing. When they would reduce it to Bars, or any other Faſhion, they take this Maſs, which the Workmen call the *Piece*, and carry it to another Forge, and by the Help of Charcoal, and two Pair of Bellows wrought by two Men, they make it red hot, and then carry it to the Anvil, and with a wooden Hammer, with Iron at the End of it, they make it as long and as thin as the Hammerer pleaſes. There is one Thing remarkable, that is of no ſmall Conſequence, which is, that ſeeing the Hammerer can reduce but half this Piece into Bar, becauſe he muſt hold it faſt by the other Part, he therefore, with us, to cool it the ſooner, that he may go to work upon the other Part, throws it into Water; and this is the Cauſe that the *French* Iron is brittle: But this might be eaſily remedied, by letting it cool of itſelf. It may be objected, that it is not altogether the quenching it in the Water that makes it ſo brittle, but it proceeds oftentimes from the Mineral, or from its not being well ſtirred. I do not diſagree to this, but there is a Proverb which ſays, *Ill to Ill can never be good*; this is the Manner of making Iron into Bars.

Of Iron *in the* Gad, *and of* Iron Wire.

Iron in the *Gad*, or *Rod Iron*, is made from Iron in the Bar, which has been heated in a Kind of Furnace, and by Steel Mills cut into the Shape and Figure we ſee it in. The *Iron Wire* is made of the Rods drawn through little Holes, after the Manner that they make Wax-Candles: They begin with the largeſt Hole, and finiſh by the little one, ſtill diminiſhing the Size of it.

Of Iron Plates, *and of* Black *and* White Iron, *or* Tin, *as it is called with us.*

The *Iron Plates* are made of Bars heated, and made thin with Hammering. There are two Sorts of Plates, the great and ſmall. They make the *Black Iron* by beating the Plate with ſmaller Hammers: But beſides this, in *Germany* they make a white Iron of which they make ſeveral Utenſils. This is a ſoft Iron reduced into thin Plates, and afterwards covered with Tin, in which Operation it is ſaid they uſe *Aqua fortis*. There is white Iron made at *Nevers*; but that of *Germany* is moſt eſteemed, becauſe it is more white and brighter, and will not ruſt as the other.

Of Steel.

Steel is only *Iron* purified and made harder, by means of plunging it in cold Water after heating it in Furnaces with the Horns and Hoofs of Animals. The volatile Salts of which are ſuppoſed to penetrate the Subſtance of Iron, and turn it into Steel, which is finer or coarſer according to the Number of Times this Operation has been repeated. The fineſt *Steel*, which is that of *Kernent*, is alſo ſuppoſed in a great Meaſure to owe its Excellence to certain Drugs with which the Water it is plunged into, is impregnated, as will be related hereafter.

The beſt *Steel* is that which comes from *Germany*, and is called *Steel* of *Kernent*, from a Village in *Germany*, called *Kernent*, where the beſt *Steel* is made. This Sort is called *Steel* of a *double Mark*, and is uſed in making ſuch Inſtruments as are extremely fine; as Lancets, and other Chirurgical Inſtruments, Razors, Graving Tools, *&c.* The ſecond ſort is that they call *Roſe Steel*, becauſe when it is broken there appears ſomething in it like a little Roſe, of a Partridge-Eye Colour, and beſides, the Caſks that they come in are marked with a Roſe. This Steel is in little Bars, from one Foot to two Feet long, and half an Inch thick. There are likewiſe ſeveral ſofter Sorts of Steel which are but the Refuſe of the *Roſe Steel*, which ſome call *Steel* of the *ſingle Mark*. We have likewiſe Steel from *Hungary*, *Italy*, and *Piedmont*. There are alſo ſeveral Sorts made in *France*, as thoſe of *Vienne*, of *Rive* in *Dauphine*, or *Clamecy* in *Auvergn*, and of *St. Diſier* in *Champagne*; it is likewiſe made at *Nevers*, and at *la Charite*; and this they call *Common Steel*.

But of all the Sorts of Steel in *Europe*, there is none that comes near to that of *Kernent* for Goodneſs,

neſs, becauſe amongſt the hundred and fifty Iron Mines that the *Germans* are poſſeſſed of, there are none ſo proper for the making fine Steel as thoſe of *Kernent*, and there are, beſide, no People but thoſe of that Place, who exactly know the juſt Quantity of Arſenick, Tar, Orpiment, Sublimate, Antimony, white Copperas, and other Drugs, of which to compoſe the Water to dip it in: And this, in few Words, is the Reaſon why no fine Steel is made but in *Germany*, and that many Perſons ruin themſelves by endeavouring to counterfeit it. As to the tempering of common Steel, they make uſe of nothing but common Water.

There was formerly a Steel came from *Damaſcus*, and was very good; and if we will believe Mr. *Furetiere*, the Temper of it was made by the Impreſſions of the Air, when a Horſeman riding full Speed held it in his Hand and brandiſhed it in the Air. He alſo ſays, they wetted it by means of a wet Goat-Skin drawing its Edge over it as if they would cut the Skin.

Good Steel ought to be brittle, of a fine Grain, and as white as it can be made. The Chymiſts make ſeveral Preparations of it, of which hereafter. As for the Filings of Steel, they are of Uſe in Phyſick, the beſt are thoſe of Needles; its Proof is by putting it upon a lighted Candle; that which burns by halves, and puts out the Candle, is mixed with the Filings of Iron.

Of the aperitive Saffron *of* Mars, *or the* Crocus Martis.

The *Crocus Martis*, which is called aperitive, is a Preparation of Iron or Steel, which is made after three Manners: the *Firſt*, by expoſing Plates of Iron to the Dew. The *Second* is by ſprinkling the Filings of Iron with Rain Water, or Water mixed with Honey; from whence, after ſome Time, you ſhall have a Ruſt of a brown Colour. Theſe Preparations of *Iron* or *Mars* are very long in making, but very good for the Diſeaſes hereafter mentioned. But as theſe two Sorts, as I have ſaid, require much Time, and have but a bad Colour, they chuſe rather a *third* Way, which is to take a Piece of Steel, and heat it in a Smith's Forge, and then applying to it a Roll of Sulphur, melt it down, and reduce it into a Powder, and ſo melted, put it into a Crucible, together with more Sulphur, and reduce it by the Fire of a reverberatory Furnace, into a Powder of a beautiful red Colour: Others uſe the Filing of Iron inſtead of Steel.

The aperitive *Saffron* of *Mars* is commonly called *Crocus Martis aperitivus*, or *aperiens*, and is an excellent Remedy for the Dropſy, and to cure the Green-Sickneſs. The Doſe is from ten Grains to forty, in ſome Electuary, Conſerve, or Lozenge, or, as Mr. *Lemery* ſays, with ſome Purgatives.

Of the aſtringent Saffron *of* Mars.

The aſtringent *Saffron* of *Mars*, called *Crocus Martis aſtringens*, is one of the former Preparations of *Mars* waſhed ſeveral Times with Vinegar, and afterwards put into a Crucible, and by a ſtrong Calcination of five or ſix Hours, reduced to a reddiſh Powder, but not ſo beautiful as that above.

The Uſe of this *Crocus* is to ſtop Blood when voided, either above or below. It is taken in a like Doſe as the former, in Medicines proper for the Malady. The Ancients have given both of theſe, as well as many other things, the Name of *Crocus*, or *Saffron*, from their reddiſh Colours.

Of the Salt *or* Vitriol *of* Mars.

There are two Sorts of *Salt* of *Mars* or *Iron*, but the beſt is that which is made by putting Oil of *Vitriol* and Spirit of Wine in an Iron Pan, and when it has ſtaid there three Weeks or a Month, you will find at the Bottom a greyiſh Salt, which you muſt dry, and then preſerve it carefully. The other *Salt* of *Mars* is made by putting the Filings of Steel into diſtilled Vinegar, proceeding in the ſame Manner as you would make Salt of *Saturn*, as ſhall be ſhewn hereafter. The firſt *Salt* of *Mars* is an excellent Remedy againſt Obſtructions. The Doſe is from four to twelve Grains in any Liquor proper for the Diſtemper. As for the Choice of it, the whiteſt and drieſt is the beſt.

Of the Oil *of* Mars.

Oil of *Mars*, or *Iron*, as it is improperly called, is a Salt of Iron reſolved into Liquor in a Cellar. Some People uſe this Oil as the Salt, with this Difference, that they give it in a larger Doſe.

Of the Cryſtals *of* Mars.

Cryſtals of *Mars* are made by putting the Filings of Steel in Water, and putting upon it a good Spirit of Vitriol, and by putting it in a Cellar; they draw thence *Cryſtals* of a greeniſh Colour; which being dried, are made Uſe of to the ſame Purpoſes as the Salt or the Oil, but they muſt be given in leſſer Quantities, becauſe of their great Acrimony. Some Perſons pretend, that by a Retort they can draw a Spirit of Vitriol from theſe *Cryſ-*

tals: But as this Spirit muſt be very weak, I would not adviſe any body to trouble themſelves about it.

Of the Tincture, *or* Syrup *of* Mars *with* Tartar.

They draw from the Ruſt or Filings of Iron, by the Help of *Tartar* and boiling Water, a blackiſh Tincture; which after having been evaporated and reduced to the Conſiſtence of a *Syrup*, is what they call *Tincture*, or *Syrup* of *Mars*; others cauſe almoſt all the Moiſture to evaporate, and ſo make that which we call the thick *Tincture*, or the Extract of *Mars*.

They attribute to theſe Tinctures the Property of being very good Aperitives; their Doſes are different, for the thicker the Tinctures are, the leſs of them muſt be taken; the ordinary Doſe is from a Drachm to half an Ounce.

Of the Tincture, *or aſtringent* Syrup *of* Mars.

They likewiſe draw from the Ruſt of Iron, with the Lees of Wine, or the Juice of Quinces, or any other aſtringent Juice, a *Tincture*, *Syrup*, or *Extract*, to which they attribute a binding Quality. The Doſe of theſe Extracts is likewiſe according to their Thickneſs, but the common one is from ten Grains to half a Drachm in ſome aſtringent Liquor.

Of Mars Diaphoretick.

Mars Diaphoretick is made of the Ruſt of Iron mixed with an equal Quantity of Sal Armoniack, by a ſubliming Veſſel: they draw thence Flowers which they diſſolve in Water, and then precipitate them by pouring upon the Diſſolution the Oil of *Tartar per deliquium*. They dry this Powder, which being dried is what they call *Mars Diaphoretick*, altho' the diaphoretick Virtue, which it may have got from the Sal Armoniack is not very great, becauſe it is almoſt all carried away by the Water.

Iron, in *Latin* called *Ferrum* or *Mars*, *Lemery*. becauſe the Aſtrologers pretend that this Metal receives Influences from the Planet of that Name, is a Metal very hard, dry, and the moſt difficult to melt of all others. It is naturally compoſed of a vitriolick Salt, Sulphur, and Earth, very ill digeſted, and bound together, which makes it ruſt ſo eaſily. There are ſeveral Mines of it in *Europe*, and eſpecially in *France*, in *Champagne*, *Lorrain*, *Normandy*, *Burgundy*, and *Berry*. They take it up ſometimes in a *Marcaſite*, that is of the Bigneſs of Pig Nuts, and of the ſame Colour, ſtreaked with ſhining Metalline Veins, ſometimes in Sand. They waſh this *Marcaſite* to get the Dirt from it, then they put it into great Furnaces made on Purpoſe; they cover it with Charcoal, Flints, and Potters Clay, and by means of a very violent Fire, blown by huge Bellows, they put it into a Fuſion; they ſcum thence a Matter that is as it were vitrified, reſembling Enamel; then they let it run into Moulds, for great Wedges, about ten Feet long, and a Foot thick. This is called by the *French*, *Gueuſe*, commonly, Sow-Metal. The Ruſt of Iron, is Iron penetrated and rarified by the Moiſture of the Air, which the *Latins* call *Ferrugo*; it is aperitive by Urine, and aſtringent by the Belly, proper for all Illneſs cauſed by Obſtructions, and to ſtop Looſeneſs.

Iron, made red-hot in the Fire, and ſeveral Times quenched in Water, renders the Water aſtringent and proper for Diſeaſes of the Belly. The Waters of a Smith's Forge retaining ſome ſaline and vitriolick Particles of the Iron, are aſtringent by the Belly, and aperitive by Urine.

Steel is Iron rendered more hard, more compact, more fine, and poliſhed, by Calcination and dipping it in Water. To do this, they lay Iron, and the Hoofs of Animals, *Stratum ſuper Stratum*, in a Furnace made on Purpoſe, near the Mines: they put Fire to it, and when the Metal is ſoftened and almoſt melted, they dip it in cold Water, that ſo the Pores which were opened by the Force of the Fire, may immediately be ſhut up; and they oftentimes repeat the Calcination and the Dipping.

The Hoofs of Animals, burnt in the Fire, produce two Effects: The firſt is, that they diſſipate the moſt volatile, the moſt ſaline, and the moſt rarified Particles of the Metal. The ſecond is, That a Portion of the volatile Salt which theſe Hoofs do naturally contain, is introduced into the Pores of the Metal. Now this Salt being rendered an Alcali by the Calcination, it abſorbs and deſtroys the Points of the vitriolick Salt, and the Acid which remained in the Iron; ſo that the Motion of this Salt being relaxed, the Metal does no longer rarify itſelf ſo much, which may contribute to give a good Quality to the Steel; but the principal one that it gains, comes from the Water it is dipt in, which is made on Purpoſe. They make Steel in many Places of *France*, *Italy*, *Piedmont*, and *Hungary*; but the beſt is made in *Germany*, at a Town called *Kernent*. Steel ought to be brittle, of a fine Grain, and white.

The Filings of Steel are proper to remove Obſtructions, for the Jaundice, and for Diſeaſes of the Spleen. The Doſe is from a Scruple to a Drachm.

Water,

Water, in which red-hot Steel has been quenched, called Chalibeate Water, is an Aſtringent.

It is remarkable, that in Iron there ſhould be two ſuch very differing and oppoſite Qualities, as of Drying and Moiſtening, Opening and Obſtructing, Aſtringing and Relaxing. Theſe Qualities are thought to be owing to the mixed Texture of the Body; the relaxing Quality, to the ſaline and more volatile Part; the Aſtringent, to the Earthy, and that which is more fixed.

The Salt of Iron is made in the following Manner. Take Oil of Vitriol, or of Sulphur *per Campanum*, two Pounds; Water, two Gallons; mix them well in a well-glazed earthen Jar, by dropping the Oil into the Water, and ſtirring it well with a wooden Rod; put into this Mixture, of Filings of Iron two Pounds or more, ſtirring it for half an Hour, then let it ſettle; decant off the clear Water, filter, and put it into a Frying-Pan, which over a Charcoal Fire evaporate to Drineſs, and ſo there will remain a pure white Salt at the Bottom. This Salt cures and opens the worſt Obſtructions in the Womb or Bowels; it ſometimes purges, and may be given to half a Scruple in a Glaſs of Wine alone, or ſweetened with Syrup of Violets.

After the Filings of Iron are turned into Ruſt, and a Tincture extracted from thence, the *Fæces* are a Kind of *Crocus* made without Fire, which are drying and binding, good againſt Fluxes, Bloody Flux, Gonorrhœas, Whites in Women, *&c.* They dry up Ulcers and Wounds, ſtop all Fluxes of Blood, the Flux of the Terms and Hemorrhoids; they ſtrengthen the Liver, dry up the Water in Dropſies, and running Ulcers in the Legs. Given from a Scruple to half a Drachm, in a proper Vehicle, every Night going to Bed.

The Copperas, or Vitriol of Iron, is made in great Quantities by a cementatory Calcination, then perfected by Diſſolution, Evaporation, and Cryſtallization.

Not only the Salt of Iron, but the Tinctures, are ſaid to open Obſtructions of the Reins, cure Ulcers in the Reins and Bladder, help the Cholick, Weakneſs of Stomach, or Want of Appetite; it gives eaſe in the Gout, and other Pains of the Joints, both by inward taking, and outward Application.

The Ruſt or Vitriol of Iron, and mixed with Vinegar, applied, is good againſt Tetters, Ringworms, Scabs, and running Sores, or Breakings-out, though of many Years Continuance, eſpecially if a little Roch Alum be mixed with it; it alſo takes away the *St. Anthony's Fire*, or any other leſſer Heats and Inflammations.

[No Metal is ſo neceſſary for the Uſes of Life as Iron, and by the Goodneſs of the Creator, none is found ſo plentifully in almoſt every Country. It is dug out of the Earth in very different Forms, in ſome Mines it is found pure, either granulated or in Lumps; in others it is met with in a heavy Stone of a dark yellow or reddiſh Colour, or in a heavy yellowiſh or reddiſh Earth. Some Ores yield the Metal contained in them only by breaking, and a few Hours Fuſion, others require a great deal of Labour to ſeparate it, and the Addition of Lime, Marle, or Stones, to facilitate the Fuſion.

The ſpecifick Gravity of Iron to that of Gold, is as three to ſeven, or thereabout; it is diſſolvable by all ſtrong Acids, and when expoſed to the Focus of a ſtrong Burning-Glaſs on a Tile preſently melts, and then becomes a brittle half vitrified Subſtance, but if laid on a Piece of Charcoal in the ſame Focus, it melts and flies all off in Sparkles. It conſiſts of a bituminous inflammable Principle, a vitriolick Salt, and a vitriolick vitrifiable Earth. This Earth united with any inflammable Subſtance by Fire, will become Iron, which accordingly is ſeen in burning inflammable Bodies, in the Aſhes of which Iron diſcovers itſelf to the Magnet, tho' no Signs of Iron are before diſcoverable in theſe Subſtances, even when reduced to the fineſt Powder.

That the vitriolick Salt is likewiſe in conſiderable Quantity, is evident from the Solubility of Iron in ſimple Water, from the Taſte of the Water in which Iron had been in Part diſſolved, and from the Heat which Filings of Iron conceive on often ſprinkling with Water, which ariſes from the Action of theſe Salts on the metallick Earth.

For medicinal Uſes Iron is preferable to Steel; the ſimple Powder of the Filings is by many ſaid to be better in many Caſes than any Preparation of it; the Salt, which is alſo much uſed, we make by putting warm Water acidulated with Spirit of Vitriol on the Filings of Iron, and after a warm Infuſion of twenty-four Hours, filtritating the Liquor and evaporating it to a Pellicle, and ſetting it in a cool Place, where it yields us a Salt in beautiful green Cryſtals.]

5. *Of* Quickſilver.

THAT which we call *Quickſilver*, crude and running Mercury, Hydrargyrie, liquid Silver, the *Proteus* of Nature, the fugitive Salt, or the mineral Spirit, is, according to Mr. *Charas*, a metallick, or mineral Liquor, of a volatile Nature, found in the Mines, and compoſed, as is believed, of a white ſulphureous Earth, and of its own proper internal Mercury. Some Authors, and Mr. *Charas* amongſt the reſt, ſay, that Mercury is not to be placed in the Rank of Metals: they

have given it the Name of a Semi Metal, becauſe it is neither hard nor malleable as the true Metals are, yet it eaſily unites itſelf to any other Metal, eſpecially to Gold, to which it often ſerves as an Intermediate to join it to other Metals. Its Colour of Silver, and the Diſpoſition it has to Motion, is the Reaſon why they call it *Quickſilver*; from the ſame Colour, and its Fluidity, it is named *Hydrargyrum*, that is to ſay, watry Silver, or water Silver. They call it *Mercury* from the Analogy which it is ſuppoſed to bear to the Planet of the ſame Name, or becauſe of the Variety of the Shapes it can take, ſuitable to what the Heathens repreſented of that Deity. It is likewiſe for the ſame Reaſon, and the Diverſity of Colours that may be given it, that it is named *Proteus*; and from its Fluidity and Volatility, it is called the *Fugitive Salt.*

Quickſilver is found in the Mines after different Manners, ſometimes incloſed in its own Mineral, and ſometimes as fluid as we ſee it; and this becauſe it is found ſo naturally, ſome have given the Name of *Virgin Mercury*; they find it ſometimes amongſt Earth and Stones, and very often embodied in a natural Cinnabar, as we ſhall ſee hereafter. They who take Quickſilver from its Ore, make uſe of great Iron Retorts to ſeparate it from its Mineral, or the other hard Bodies with which it is joined, and by the Means of Fire and freſh Water, into which it falls, they render it fluid, ſo as we commonly have it. The Ore of the Mercury is ſo like Antimony of *Poictou*, that if it were not for the Rays or Streaks, which are ſomewhat whiter, there is no Body that could find the Difference; when it is found running or liquid in the Ground, the Slaves who take it up have nothing to do but make it run through *Chamois* Leather to cleanſe it from its Impurities. There are but few Places in *Europe* from whence they take Quickſilver, which are *Hungary* and *Spain*, and the Mines of *Frioli* which belong to the *Venetians*. The Quickſilver Mines are ſo deep, that I have been informed it is a Work of five Hours to deſcend into them. The *Frioli* Quickſilver is brought into *France* by Way of *Marſeilles*, that of *Hungary* is carried to *Vienna* in *Auſtria*, and from thence to *Holland*, from whence we have it. That of *Spain* is tranſported to *Peru*, to ſerve to purify their Gold and Silver, as I have obſerved before. The *Spaniſh* Quickſilver was once common enough in *France*; this Quickſilver being put upon Silver a little heated, had the Property of gilding the Superficies, and of giving the Silver a very fine Gold Colour; this rich Quality, according to ſome Alchymiſts, which in Reality is nothing, and the Difficulty there is of having it at preſent, becauſe the King of *Spain* has expreſly prohibited the Tranſportation of it into other Countries, has made it ſo ſcarce as it is at preſent, as well as the natural Cinnabar. Some modern Authors have ſaid, that there is Quickſilver found in the *Indies*, *Poland*, *Germany*, and even in *France*; which perhaps may be true: But notwithſtanding all the Pains I have taken, I could never diſcover the Truth of it. It is true indeed, that a Mine of Cinnabar was lately found in *Normandy*, between *St. Lo* and *Charenton*, near a Place called *Le Foſſe Rouge*; but the great Charges of it obliged them to ſtop it up again. It is an Obſervation of Mr. *Lemery's*, that Quickſilver is uſually found under Mountains covered with white Stones, which are as brittle as Chalk. The Plants which grow upon theſe Mountains ſeem greener and larger than elſewhere, but the Trees which are near the Quickſilver Mine, rarely produce Fruits or Flowers, and their Leaves come out later than in other Places.

One of the Signs that diſcover a Mine of Quickſilver, is when in the Month of *April* or *May* there come thick Miſts or Vapours out of one particular Place, which cannot riſe far in the Air becauſe of their Weight: It is to ſuch a Place that they go to look for this Metal, and eſpecially if by chance it is ſituated oppoſite to the North Wind, for then they think the Mine will prove the beſt. They likewiſe find a great deal of Water about theſe Mines, which it is neceſſary to draw off at the Foot of the Mountain, before you can come to work them.

Chuſe ſuch Quickſilver as is white, running, clean, of a lively and beautiful Water, and reject that, which being put into any Copper Veſſels, ſuch as Scales of a Balance, or others, appears like Lead; that is to ſay, when its Colour is brown, and it leaves Tails or Trains behind it, as if it were roapy, or ſticks to the Hands when you handle it; which is of no ſmall Conſequence, becauſe the greateſt Part of the Quickſilver that is conſumed, is made Uſe of by Looking-glaſs-Makers, Goldſmiths, Burniſhers, Gilders, and others; and if by Miſchance or Roguery, in ſuch a Parcel of Quickſilver, as is uſed at one boiling, there ſhould be one Pound of Lead, it would ſpoil all their Works.

Beſides the Qualities before-mentioned, which ought to be in Quickſilver, one may prove it by putting a little of it in a Silver Spoon, and letting it evaporate over the Fire; if there remains a yellow Spot, it is a Mark that it is natural; if it leaves a black one, it is a Sign that it is mixed with Lead or Tin. Quickſilver is a Matter ſo very weighty, that Mr. *De Furetiere* ſays, that a ſolid Foot of Mercury weighs nine hundred forty ſeven Pound, and that a cubical Foot of the *Seine* Water

Water weighs but ſeventy Pound; that is to ſay, a Veſſel which will hold thirty five Pints of the Water of the River *Seine*, according to the *Paris* Meaſure, will contain nine hundred forty ſeven Pounds of Quickſilver. As *Quickſilver* is ſo extremely weighty, ſo it is no leſs ſtrong; ſince a fifty Pound Weight of Iron being put upon a Bouillon of Quickſilver, which, as it comes from *Holland*, is generally a hundred and threeſcore or fourſcore Pounds, it ſhall no more ſink in it than if it were an Ounce, which I could never have believed, unleſs I myſelf had ſeen it. As to the Properties of Quickſilver, they are ſo great, that they exceed Imagination; ſome Perſons pretend, that a Drachm Weight of Quickſilver has the ſame Effect as any greater Quantity whatever; and that if they preſcribe it in large Doſes, as they do ſometimes, eſpecially in the *Miſerere*, or Twiſting of the Guts, it is only that it may paſs the faſter, and diſentangle the Bowels. It is likewiſe a ſurprizing thing, that into whatſoever Shape you metamorphoſe Mercury, you may make it return to its firſt State of Nature, and that with a very ſmall Diminution. *Borrichius*, a *Daniſh* Chymiſt, ſays, in his Book of Chymiſtry, that having operated upon ſome Mercury for a Twelvemonth together, and having reduced it into ſeveral Forms, it took its own Shape again in the Fire, at laſt, by the Means of a little Salt of Tartar. The great Conſumption of Quickſilver, eſpecially in *France*, is the Reaſon why the *Dutch* have raiſed it two *Stivers* of their Money in the Pound, which is three *Sous*, or three Pence of ours. And ſince they have, for a long Time, engroſſed that Merchandize, it is not ſold there under ſix and thirty *Sous* the Pound. I ſhall not here recount the ſeveral Virtues that are attributed to this Metal, becauſe ſeveral Authors have treated of them, nor decide the Controverſy, whether it be cold or hot; but I muſt ſay this, that it is ſo cold, externally, that it is impoſſible to hold one's Hand in a Quantity of Quickſilver for the Space of a Quarter of an Hour. It is wrong to think, as ſome modern Authors have written, that the *Dutch* turn Mercury into Cinnabar, to tranſport it into other Places, and that for theſe three following Reaſons: *Firſt*, Becauſe Quickſilver is eaſily tranſported in Sheep Skins, put into Barrels, and filled up with Straw or Shavings. The *ſecond* is, that if we were obliged to revive Cinnabar into Mercury, we could not afford it at the Price we do: And all the Mercury that is reduced in *Holland* into Cinnabar, is uſed in *France* and other Places as Cinnabar, at leaſt there are only ſome very curious People, who reſolve to have their Mercury pure and neat, who give themſelves the Trouble to revive it. In the *third* Place, when the *Dutch* have a Mind to make their Quickſilver portable, they fix it very eaſily, and put it into all ſorts of Veſſels, even into Paper, and ſend it to them who have the Secret to make it run again without any Charges.

Quickſilver, called in *Latin Hydrargyrus*, *Mercurius*, *Argentum Vivum*, and by the Chymiſts *Azock*, is a Metal, or Semi Metal, fluid, running, of the Colour of Silver, very weighty, and yet volatile, penetrating, uniting, and amalgamating itſelf with Gold and Silver. It is found in ſeveral Mines in *Europe*, as in *Hungary*, and in *Spain*; and there is one Mine diſcovered about forty Years ſince in *Normandy*. *Lemery.*

As Mercury is a very fluid Body, ſo it is more difficult to be taken up than other Metals, for it inſinuates itſelf into Earths, and into the Clefts of Stones, ſo that you often loſe the Sight of it when you think you are juſt going to take it up. People are forced to go very deep in the Ground to find it, and the Men cannot work very many Years at it before they have the Palſy; ſo that few are employed in it but Criminals condemned to Puniſhment.

The Quickſilver is not always taken out of the Mine neat and running, but it is generally mixed with Earth, or reduced into a natural Cinnabar by ſome Portion of Sulphur that it had met with. That which has but a little Earth with it may be ſeparated by making it paſs through Leather; but when it has a great deal of Earth, or other Impurities, it muſt be put into Iron Retorts placed upon a Furnace, to which they fit a Recipient full of Water, and blow the Fire under the Retort till it becomes fierce, and makes the Mercury diſtil into the Water. Iron Retorts are the moſt preferable on this Occaſion, becauſe the Quickſilver endeavouring to get to this Metal, ſeparates itſelf the more willingly from the Earth, and is the more diſpoſed to be rarified and puſhed on by the Fire.

One is not always aſſured of the Purity of the Mercury that is ſold by the Merchant, for it may be vitiated by ſome Mixture which was made in the Mine, and could not be ſeparated by the Leather; or by the Addition of Lead, or ſome other Metal or Mineral, that the Sophiſticators may have put into it: it is therefore neceſſary to purify it before you uſe it.

The Method of the Ancients to purify their Mercury, and, as they ſaid, at the ſame Time to correct its cold Quality, which they ſaid it had in the fourth Degree, was by mixing it in a Stone Mortar, with Salt and Sage in Powder, and beating this Mixture for an Hour together with a wooden Peſtle, and afterwards ſtraining it through a Skin;

by this Means they rendered it clear and beautiful: But they had only taken off a ſuperficial Impurity which was of no Conſequence, which the Quickſilver by rolling about contracted in the Veſſels of Leather or Earth it was kept or tranſported in: If there were any Metal or metallick Matter in the Quickſilver, it would paſs with it through the Pores of the Skin, and that could make no Separation of it; as for the pretended cold Quality of the Mercury, that could not be corrected by this Preparation, and in ſhort the Metal continued in much the ſame Condition as before.

The ſure Means of having Quickſilver as pure as it is poſſible, is to revive it from Cinnabar after the following Manner:

Mix together two equal Parts of Powder of Cinnabar, and Filings of Iron, and fill about a half, or two thirds of a Retort with them, place it on a reverberating Furnace, and fit to it a Glaſs Recipient full of Water, without luting the Joints; encreaſe the Fire to the fourth Degree, you will find the Quickſilver diſtil and fall to the Bottom of the Recipient; keep it on the Fire till no more will riſe, and you will have got thirteen Ounces of running Mercury, from one Pound of Cinnabar; waſh it, and having dried it with Linen Cloths, ſtrain it through Leather. We may be ſecure that this Mercury is pure, becauſe if any Portion of Metal or Mineral had been mixed in the Mine with the Quickſilver, of which the Cinnabar was made, it would have remained at the Bottom of the Veſſel, and would not have been able to riſe with the Mercury and the Sulphur; and if after the Sublimation any ſtrange Body had been mingled with the Cinnabar, this Impurity, of what Nature ſoever, would be ſeparated by the Revivification or Diſtillation that I have been ſpeaking of. The Recipient muſt be filled with Water, that the Mercury which aſcends in a Vapour from the Retort, may by the Coldneſs thereof, be condenſed into a Liquor; but the joining of the Recipient with the Retort, muſt not be luted, becauſe that in the Diſtillation there always ariſes a great Quantity of Sulphur from the Cinnabar, which would mix itſelf with the Mercury, if it could not find a Place to get out at, and would reduce it to a Sort of grey Paſte, ſo that it would be neceſſary to diſtil it a ſecond Time.

The Iron, upon this Occaſion, ſerve as an Alkali to ſeparate the Acids of the Sulphur, which held the Mercury in the Cinnabar; and this Mercury being diſengaged from its Bonds, comes into a Condition of being rarified and puſhed on by the Fire. Quick Lime produces the ſame Effect as the Iron, but then there muſt be thrice the Quantity.

The Fluidity of the Mercury proceeds from this, that the inſenſible Particles, of which it is naturally compoſed, are all ſpherical or round; for their Figure rendering them uncapable of hooking one into the other, they roll about continually. The ſame Reaſon explains why this Metal, though it be ſo heavy, ſhould eaſily be volatilized by the Fire; for its round Parts being always diſunited, and having no Tie of one to the other, are all ſeverally light, and in a proper Condition to be puſhed forward, and elevated by the Fire. That which makes the Solidity and Firmneſs of other Metals is, that their inſenſible Particles having divers Figures, are ſo hooked, bound, and exactly united one to the other, that the Fire has no Power to ſeparate them, ſo as to let them be elevated.

Quickſilver is a Remedy for the *Miſerere*, in which the Patient ſwallows a Pound or more: It is voided by Stool, without any Alteration.

They uſe crude Mercury to kill the Worms, they boil it in Water, and then give the Patient the Decoction to drink, which muſt have taken but a very ſmall Impreſſion let it have boiled never ſo long; for the Metal is found to be of the ſame Weight, and the Decoction has no other Colour, Taſte, or Smell than common boiling Water; and yet it does not fail of producing a good Effect. Care muſt be taken that the Veſſel in which the Mercury is boiled be of Earth or Glaſs, and not of Metal, becauſe the Quickſilver would penetrate it. Mercury kills Lice and other Inſects that infect the Body; it cures the Itch, Tetters, and venereal Diſtempers. It reſolves and diſſipates hard Tumours in the Glands and other Parts. It removes Obſtructions, applied outwardly or taken inwardly. It is uſed in the Compoſition of ſeveral Unguents and Plaiſters. It is one of the beſt Remedies in Phyſick, to diſſipate and eradicate the groſſeſt, moſt foul, malignant, and inveterate Humours.

One of the moſt ſurpriſing Effects that Mercury produces, is to raiſe a Salivation, and ſo carry off the very *Radix* or Root of the Diſtemper in all venereal Foulneſſes. To explain this, it muſt be conſidered, that the venereal *Virus* conſiſts in a Humour that is ſalt or acid, tartarous and groſs; which fermenting by Degrees, corrupts the Blood and other Humours, and cauſes all the ill Accidents that follow it.

The Particles of Mercury which enter into the Body, either by Frictions of mercurial Ointments, or by the Mouth, being rarified, are diſtributed as a Fume, and apply themſelves particularly to the *Virus*, becauſe this acid Matter is more capable of uniting with them than any other Subſtance. They penetrate the Venom, and are penetrated by

by its acid Salt, almoſt in the ſame Manner as it happens in the Mixture that is made when one would prepare the corroſive Sublimate. The Heat and the Circulation of Humours ſoon make this Mixture of Mercury and Acid elevate and ſublime itſelf to the Brain, as the Fire elevates the corroſive Sublimate in a Matraſs, upon which the Head, the Gums, the Palate, and the Tongue, are ulcerated; the ſalivary Veſſels are relaxed; and there are the ſame Pains as if the corroſive Sublimate was put upon ſome Part that was excoriated. Theſe Accidents are accompanied by a copious and involuntary Salivation, which is maintained by the Acrimony of the Humours that deſcend from the Brain, and the Relaxation of all the ſalivary Veſſels. This Flux continues till all the acrid, virulent, and mercurial Humours are evacuated.

Since there is nothing able to ſubdue theſe venereal Diſtempers ſo ſpeedily, ſafely, and effectually as Mercury, it will be neceſſary to ſee the ſeveral Ways, by which it may be prepared as well for external as internal Uſes.

An Ointment, called the Neapolitan Ointment, *is prepared after the following Manner for external Uſes.*

Take of Quickſilver, cleanſed and ſtrained through Leather, three Ounces; kill it in a marble or wooden Mortar, with a ſufficient Quantity of the Oil of Turpentine, adding of Hogs-Lard, ſix Ounces; beat the Mercury and the Lard well together, until the Quickſilver diſappear, and make an Ointment to raiſe a Salivation after the following Manner:

Firſt bleed the Patient once or twice, or oftner, if you ſee Occaſion for it; then purge him according to the Strength and natural Conſtitution of his Body, making uſe of a Bath, half Bath, and Broths, with proper and ſuitable Herbs, ſo as to render the Humours more fluid, and fitting to riſe upon a Salivation, taking Care that the Salivation be raiſed, carried on, and promoted leiſurely and gradually; for in this reſpect moſt of our old Surgeons have erred, and not a few of our late Surgeons do ſtill err, in raiſing a Salivation too haſtily, and to ſuch a Height, that the Mouth, Tongue, and Tonſils are frequently ſeized with a Gangrene; wherefore a Salivation ought to be raiſed by Degrees, and the Mouth often looked into, ſo as that the Signs of an approaching Salivation may be duly and clearly diſcerned: Wherefore placing the Patient before a good and clear Fire, being firſt covered with Clothes ſuitable to his Diſtemper, begin the Friction at firſt with half an Ounce of *Neapolitan Ointment*, anointing him from the Soles of his Feet to the Calves of his Legs. Upon the ſecond Night uſe about two Ounces more of the ſame Ointment, in anointing him from the Calves of his Legs to his Knees: And upon the third Day let him reſt, eſpecially if you perceive the Signs of an approaching Salivation, that is, an extraordinary Heat and Dryneſs of the Mouth, a Swelling of the Gums and Salival Glands, attended with a frequent Spitting. Upon the fourth Day, having ſearched the Mouth to try whether the Orifices of the Excretory Veſſels be ſeized with an Inflammation, or ſmall Ulcers, another Friction is to be performed with two or three Ounces of the Ointment, anointing from the Knees to the Middle of the Thighs; and upon the fifth Day the Patient is to reſt again, abſtaining from the Uſe of the Ointment, eſpecially if you obſerve the Ulcers to enlarge, and a laudable Salivation to come on; but this depends upon the Nature of the Diſtemper, and the Strength of the Patient; for ſome require but four Frictions, others more; and nothing is more to be feared and avoided than too high a Salivation: If a fourth Friction be required, it is to be performed with two or three Ounces of the Ointment, anointing from the Middle of the Thighs to the Loins, Hips, and privy Members; and if a Friction ſhould happen to be required a fifth Time, you are to anoint the Hips and privy Members over again, extending to the Arms, and all the upper Parts of the Body, except the Head, Neck, and Breaſt.

If the Tonſils ſhould happen to be ſeized with a Gangrene, by Means of too high a Salivation, then having taken away ſome Quantity of Blood, you muſt inſtantly have Recourſe to Purgation, than which there is nothing more effectual; and it is to be frequently repeated, if neceſſary, and the Clothes wherewith the Patient was covered, during the Time of the Friction, muſt be taken off. Such a Salivation is approved of, whereby about two or three Pints of a viſcous or glutinous Humour are diſcharged every Day, and which is fully accompliſhed in the Space of twenty or twenty-five Days, or a Month at fartheſt. After the Salivation is over, the Patient is to be expoſed to the Air, and refreſhed and recruited by the Help of a Bath, Broths, and Foods of a good Nouriſhment; or elſe he muſt make uſe of a Diet-Drink made of the ſudorifick Woods and Roots for ſome Time after.

Some raiſe a Salivation by Emplaſtration, making uſe of the Plaiſter of *Vigo*, otherwiſe called the Plaiſter of Frogs, with a fourfold Quantity of Mercury. Others raiſe it with the Fumes of Cinnabar; and this is called Fumigation, which is a very good Way, eſpecially for ſuch as are troubled with Warts, Chaps, and Swellings about the Fundament.

Salivation

Salivation is alſo raiſed by the Help of crude Mercury taken at the Mouth.

Take of crude Mercury an Ounce, well cleanſed and killed with *Venice* Turpentine; of the Conſerve of red Roſes, half an Ounce; of red Coral prepared, half an Ounce; of which take from half a Drachm to one or two Drachms, till ſuch Time as a due Salivation riſes.

The moſt common Preparations of Mercury for the venereal Diſtemper, are theſe which follow: Sweet Sublimate, or *Mercurius Dulcis*, or the white Eagle; the mercurial *Panacea*, Turbith Mineral, Mercury Precipitate, white, red, and green, *&c.* for Mercury, like *Proteus*, can be changed into ſeveral different Shapes and Colours, but by the Force of Fire it ſtill returns again to its own Nature, which the Chymiſts call Reviving.

Sweet Sublimate is thus prepared: Take of Sublimate Corroſive Mercury, and of crude Mercury, of each what Quantity you pleaſe; mix them well together, and put them in a Glaſs Body, to the Height of one Finger, or two; then ſublime them with a ſlow Fire gradually, and ſeparating the Sublimate from its Dregs, powder it over again, and ſublime it three or four Times over, mixing it well; and this is called *Sweet Mercury*, or the *White Eagle*.

The *Panacea* of Mercury is made by ſubliming of Mercury ten or twelve Times over. This *Panacea* will ſooner raiſe a Salivation than ſweet Mercury, which is ſometimes apt to purge downwards. They are both of them preſcribed from ten Grains to half a Drachm.

Take of Sweet Mercury twelve Grains, powder it, and make it up into a *Bolus*, with a ſufficient Quantity of the Conſerve of Roſes, or the Mucilage of Gum Tragacanth, to be given at nine o'Clock at Night, giving the next Night fifteen Grains, and the third Night twenty, till the Salivation be duly raiſed.

The *Panacea* of Mercury is to be uſed after the ſame Manner, by encreaſing the Doſe of it gradually, according to what Height you have a Mind to raiſe the Salivation.

A great many uſe to preſcribe ſweet Mercury one Day, and a purging Potion upon the other Day, endeavouring by that means to cure the venereal Diſtemper without Salivation; or elſe they mix ſweet Mercury with Purgatives, and give it in Pills, Bolus's, or Electuaries.

Take of ſweet Mercury and *Diagrydium* of each a Drachm; of Lozenges of *Coloquintida* a Scruple; powder them, and with a convenient Quantity of *Venice* Turpentine, make a Maſs of Pills for five Doſes.

White precipitate Mercury is thus prepared: Take of Mercury well cleanſed and ſtrained four Ounces; diſſolve it in a large Matraſs or Cucurbit, with three Ounces of Spirit of Nitre; adding to the Solution, of fair Water two Pounds; and pour again upon this laſt Solution, of ſalt Water two Pounds; and then the Mercury will, by little and little, precipitate or fall to the Bottom in the Form of a white Powder, which is to be ſweetened by often waſhing, drying, and burning, or kindling Spirit of Wine upon it. The Doſe of the Powder inwardly, is from four Grains to half a Scruple.

But outwardly it cures the Scab, and other cutaneous Diſtempers, being uſed after the following Manner: Take of white Precipitate one Drachm; of the Ointment of Roſes one Ounce; mix, and make an Ointment.

Yellow Precipitate, or Turbith Mineral, is thus prepared: Take of crude Mercury four Ounces; pour upon it of Spirit of Vitriol or Sulphur one Pound; put this Solution into a Retort, with a large Receiver, ſet it upon a ſlow Fire, and draw off all the Liquor, until it is dry, and ſo the white Maſs will be obtained, which is to be powdered and diſſolved in boiling Water, and then the Mercury will gradually precipitate in the Form of a yellow Powder, which is to be ſweetened by waſhing, and burning upon it Spirit of Wine. This Powder is to be given from three Grains to four or ſix. It purges vehemently, both upwards and downwards, but it ſafely and ſpeedily cures the *French Pox*.

The *Arcanum Corallinum*, the Coralline Secret, or the Dragon devouring itſelf, called alſo *Lampandra*, is, without any Addition, performed in the Space of two Months, by digeſting Quickſilver in an earthen Pot with a long Neck, by the Help of a Lamp; for the Mercury is by that Means changed into a bright red Powder, to be given from four Grains to ſix or eight, provided it be firſt ſweetened by burning Spirit of Wine upon it, otherwiſe it often provokes Vomiting.

[Quickſilver is ſometimes found fluid in the Earth, but commonly in Glebes, or in Form of a red ſulphureous mercurial Mineral, called Cinnabar, or of a ſtony Glebe, ſometimes red, ſometimes yellowiſh, ſometimes dark, and ſometimes of a Lead Colour. It is extracted from theſe Glebes, ſometimes by the Retort, but oftener and more expeditiouſly by a kind of Diſtillation *per decenſum*; the Miners beat it ſmall and put it into narrow necked earthen Veſſels ſtopped with Moſs; other ſuch Veſſels, only with wider Mouths, are buried in the Ground, and the Necks of the firſt are put into theſe others: in this Poſition their

their Necks are firmly cemented together, the lower Veſſels being wholly under Ground, and the upper, which contain the Quickſilver Glebe, and are inverted, wholly above Ground. An Area of a ſufficient Extent being filled with thoſe double Veſſels, a Fire is lighted round them, by means of which the Quickſilver drains thro' the Moſs into the lower Veſſels. They afterwards dig them up and put the Quickſilver into Bottles.

The Mines in *Hungary*, *Carinthia*, and *Friuli*, are very rich. When the Cinnabar contains a great Proportion of Sulphur, the Quickſilver cannot be extracted without ſomething to abſorb the Sulphur, and ſet the Quickſilver at Liberty and render it fluid, as the Addition of Pot-aſhes, Lime, Filings of Iron, or the like.

Quickſilver is the heavieſt of all Metals next to Gold, which is to Mercury in ſpecifick Gravity nearly as four to three, and therefore ſinks in it, whereas all other Metals ſwim on it; it may be amalgamated with all other Metals and metallick Subſtances, but moſt difficultly with Iron, Copper, and Antimony; it penetrates Metals, and diſſolves or makes them brittle, it readily unites with Sea-Salt, but not ſo eaſily with Nitre or Vitriol, it eaſily is diſſolved in Spirit of Nitre but more difficultly in Oil of Vitriol. It is very difficult to analyſe Quickſilver, becauſe as ſoon as any conſiderable Degree of Fire is applied to it, it flies off, but by a very gentle Heat, does in Time change it into a greyiſh Powder, which afterwards turns yellowiſh, and laſtly red. Expoſed to the Focus of a ſtrong Burning-glaſs, it preſently evaporates in Fumes without leaving any Remainder, but if the Calx before mentioned, be laid before the Burning-glaſs on a Tile, it firſt melts into a Subſtance like Glaſs, and then ſpeedily evaporates, leaving a little of a browniſh Powder behind, which afterwards vitrifies; if it be laid on a Piece of Charcoal it melts into Glaſs, then runs on the Coal, and becomes again pure Quickſilver before it evaporates: Hence it ſeems evident, that Quickſilver conſiſts of a volatile vitrifiable Earth and Sulphur, to which it owes its Splendor and Fluidity, for when deprived of its Sulphur by Calcination, it loſes both its Colour and Fluidity, but if theſe Particles of Sulphur be again reſtored to it, it recovers both again. Quickſilver was by the Antients reckoned a Poiſon, *Dioſcorides* aſcribes pernicious Effects to it, and *Galen* from his Authority reckoned it highly corroſive, for he ſays, he never tried it himſelf; the Name of it is not to be found in *Hippocrates*, whence it is to be ſuppoſed it was not in uſe in his Time. It is but about two hundred Years ago, that it got into Practice generally, and that from an Obſervation, that Shepherds gave it to their Cattle with Safety for the Worms. *Jacobus Carpenſis*, a Phyſician of *Bologna*, was the firſt who cured venereal Diſeaſes with it.]

6. *Of the mineral or natural* Cinnabar, *and likewiſe of the artificial* Cinnabar.

THE mineral *Cinnabar* is a red Stone, heavy and ſhining, which is found in many Places of the World, but the beſt and moſt eſteemed comes from *Spain*. I have taken a great deal of Pains to find the true Name of the Place where *Cinnabar* is found; a worthy Perſon has aſſured me, that he himſelf had ſeen and gathered it, and that the beſt was that of *Andulaſia*, upon the Lands of the Fathers of St. *Jerome*, and that it was there as common as Free-ſtone is with us. But Mr. *Charas* has informed me, that the great Mines of *Cinnabar* lie in the Mountains of *Sierra Morena*, and that the King of *Spain* maintains a great many Workmen there at his own Expence and Charges, to get the Mercury thence and ſend it to *Peru*. And as this Relation ſeems to me to be moſt probable, I take it for certain, that the large Quantity of *Spaniſh Cinnabar* that we had heretofore, and the ſmaller we have had lately, came from the Mountains of *Sierra Morena*; and the Cheapneſs of it, at one Time, ſufficiently ſhew us that it was not difficult or expenſive to take it out of the Mines, which may in ſome Meaſure favour the Sentiments of that Perſon who told me that it was found as commonly as Stones, and that it coſt nothing but the gathering. *Pomet.*

The natural *Cinnabar* is to be choſen of a high Colour, the moſt ſhining, and with as little Stone as poſſible; but ſince the true *Spaniſh Cinnabar* is become ſo ſcarce in *France*, there are ſo many Sorts of the other, that it is difficult to deſcribe them all, tho' nothing is at preſent more common, than to aſk for the right *Spaniſh Cinnabar*; they who ſell it, make no Scruple of giving one for the other, and ſo put off for it that of *St. Lo*, tho' very different, becauſe that of *Spain* is of a bright red Colour, and that of *St. Lo* of a dull one, and is leſs abounding in Mercury; ſome Perſons indeed, on the contrary to this, which is the generally received Opinion, have maintained, that that of *St. Lo* would yield fourteen Ounces of Mercury out of the Pound, as well as that of *Spain*, which I cannot contradict, becauſe I never tried it.

The mineral *Cinnabar* of *Spain*, though much demanded, has no other Property, that I know of, but that of yielding a pure Quickſilver, with which Alchymiſts make Vermillion, and pretend

that they can make even Gold itſelf, by fixing it, and giving it a Tincture; for in reſpect of the Weight, it comes very near the true Gold. Mr. *Lemery* ſays, the natural *Cinnabar* is a Mixture of Mercury and Sulphur, which are ſublimed together by a ſubterraneous Heat, which is done by Nature almoſt after the ſame Manner as we make the artificial *Cinnabar*.

Mr. *Furetiere* has remarked, in his Book, that there is a mineral *Cinnabar*, which is a very red Stone, heavy, and not hard, reſembling the *Hæmatitis*, which contains Quickſilver, which drops from it of itſelf, without the Help of Fire. He ſays it is found about *Carniola*, and that it is the *Minium* of the Antients, and is a Poiſon. He ſays alſo the Word *Cinnabar* comes from the *Greek* Word *Kinabra*, which ſignifies the Smell of Goats, which is an inſupportable Smell; becauſe when they dig a Kind of *Foſſil Cinnabar* out of the Ground, according to *Matthiolus*, it caſts ſo rank and ſtrange a Smell, that they are forced to ſtop their Noſe and Mouth, for fear of being ſuffocated by it. I ſhould not have ſpoke of this latter *Cinnabar*, but that I look upon it to be a Falſity, and to diſſuade them who would believe that there is natural *Cinnabar*, from which the Mercury flows naturally.

There are ſo many Kinds of natural *Cinnabar*, that it would be difficult to name them all, but thoſe of *Carinthia*, *Armenia*, *St. Chriſtophers*, &c. are all much inferior to that of *Spain*.

The artificial *Cinnabar* in the Stone, is a Mixture of Mercury and Sulphur ſublimed and reduced to a Stone, in the Manner we ſee it. It ſhould be choſen in fair Striæ, and the higheſt in Colour that can be had.

The Uſe of *Cinnabar* is, as I have ſaid, to draw thence a Mercury, for thoſe who would have it clean and neat, as well to make the mercurial *Panacea*, as for other Operations where Mercury revived from *Cinnabar* is neceſſary.

Cinnabar in Stone is alſo of Uſe to Painters, after it is ground, becauſe it is of a more lively red than that which comes ready ground from *Holland*; but that which is troubleſome in it, is, that it dries very difficultly. It is likewiſe of ſome Uſe in Phyſick, as well in Fumigations, as other Forms, both inwardly and outwardly; tho' *Cinnabar* is ſeldom uſed inwardly but for Horſes, to make a Compoſition, called the *Cinnabar* Balls.

All the *Cinnabar* we have, both whole and ground, comes from *Holland*. And it is a ſurpriſing Thing, that they who make it, do it in Cakes of three or four hundred Weight, which they do eaſily, by putting into the Veſſel twenty-five Pounds of the Materials, that is to ſay, of the Sulphur and Mercury together; and when they are ſublimed, putting twenty-five Pounds more, and continuing after the ſame manner, till the Veſſel is full; and this is the Reaſon why the *Cinnabar* we ſee is diſpoſed in ſeveral *Strata*.

As for Vermillion, it is *Cinnabar* ground with Urine or *Aqua Vitæ*, or common, or Sea Water, after it is dried, tranſported to different Places.

There are two Sorts of Vermillion brought from *Holland*, the red and the pale, which happens according as they are more or leſs ground; for the more it is ground, it is the finer, but the paler is moſt uſed by thoſe who uſe it in making Sealing-Wax.

That Vermillion is to be made choice of that is well ground, dry, the leaſt earthy, and the moſt pure and clean that may be. It is certain that the *Dutch*, when they grind their Vermillion, mix it with red Lead, or ſome other drying Drugs, becauſe *Cinnabar*, when ground here, is difficult to dry, whereas it is otherwiſe in that which comes to us ready ground.

Vermillion is much uſed in *France* by them who make Sealing-Wax, Painters, and other Workmen. But Care muſt be taken not to uſe *Cinnabar* ground, and mixed with any fat Subſtance, to paint the Face; becauſe, as Mr. *Lemery* has well remarked, there is a great deal of Danger in it; and ill Accidents may attend it; the *Spaniſh* Wool may be uſed inſtead of it with Safety, as being made of nothing but *Safranum* of the *Levant*.

They draw from *Cinnabar*, or Vermillion, by the Help of Fire, and the Filings of Steel, or Quick-Lime put into a Retort, a Quickſilver that is very pure, and proper for all Uſes where Quickſilver is requiſite; but as it is very dear, becauſe of the Expence, every body, except they be very curious, make uſe of that of *Holland*. This Mercury ought to be extremely white and lively.

Cinnabar is a mineral Matter, ſolid, hard, weighty, bright, cryſtalline, of a very red Colour, diſtinguiſhed with Streaks, ſhining and ſparkling like Silver, compoſed of a Sulphur, and Quickſilver, and a little Earth. That which is impure, and of a yellowiſh Colour, mixed with a ſtony Matter, is to be rejected, as not being the true kind of *Cinnabar*, but rather a kind of *Auripigmentum*, or Orpiment. *Lemery.*

There are two Sorts, one natural, called mineral *Cinnabar*, the other artificial, called ſimple *Cinnabar*. The natural is found formed in Stones that are red, ſhining, and weighty, in the Quickſilver Mines of *Spain*, *Hungary*, *Germany*, *France*, and other Parts: That of *Spain* is accounted the beſt. That which is moſt weighty, clean, red, and ſhining, is to be preferred, becauſe the higher its Colour, the more Quickſilver it contains. The

natural

natural *Cinnabar* has been ſublimed by the ſubterraneous Fires, almoſt in the ſame manner as the artificial *Cinnabar*; but as in its Sublimation it is mixed with the Earth it meets with, it is not ſo weighty, pure, nor beautiful as the artificial, and contains leſs Mercury.

The artificial *Cinnabar* is made with three Parts of crude Mercury, and one Part of Sulphur, mixed and put into ſubliming Veſſels over a gradual Fire. It ought to be made choice of in fair Stones, very weighty, bright, with long, clear, and fine Points, of a browniſh red Colour. Each Pound of *Cinnabar* has fourteen Ounces of Mercury to two Ounces of Sulphur. Artificial *Cinnabar* being ground upon a Porphyry, is reduced to the fineſt Powder, of a moſt beautiful red Colour, made uſe of by Painters, and thoſe who make Sealing-Wax.

Theſe *Cinnabars* are made uſe of in Epilepſies and Aſthma's; to take inwardly from two Grains to half a Scruple.

Take of native *Cinnabar* ſix Grains; of the Conſerve of Lime-tree Flowers one Drachm. Make a *Bolus* to be given in the Falling-Sickneſs.

It is to be obſerved, that native *Cinnabar*, though it has been uſed and tried by a great many, will not raiſe a Salivation; whereas the other Kind of *Cinnabar* will do it ſpeedily and eaſily, which truly ought to be attributed to the large Quantity of Earth, with which natural *Cinnabar* abounds, that reſtrains it from ſubliming or riſing high enough for that Purpoſe.

If native *Cinnabar* be required to be made uſe of in Diſtempers of the Brain, and be not to be had, the *Cinnabar* of Antimony ought to be employed inſtead of it, rather than the fictitious or artificial *Cinnabar*; for this is more properly uſed in venereal Diſtempers, and chiefly by way of Fumigation.

Some chuſe the *Cinnabar* of *Hungary*, as being the moſt ſolid and heavy, repleniſhed with the beſt Sulphur and Mercury.

Native *Cinnabar* being ground into an impalpable Powder, is almoſt an univerſal Medicine, and may be given from ten to thirty or forty Grains, or a Drachm, in any convenient Vehicle, for forty, fifty, or ſixty Days together, taking it always at Bed-time. It may be taken two Days together, and ſometimes three, the next Day purging after it, and ſo to continue till thirty, or even fifty or more Doſes are taken.

It is an excellent Antivenereal; and being taken inwardly, expels the Pox, and all its Foulneſs out of the whole Body, and all its Juices. It ſweetens the Blood, takes away all manner of Pains and Aches in any Part; all manner of Swellings, Ulcers, and nocturnal Pains; kills Worms in Young and Old; is a Specifick for the Falling-Sickneſs, as ſaid before, and is excellent for Vertigoes, Apoplexies, Palſies, Lethargies, and all Diſeaſes of the Head and Brain.

The artificial *Cinnabar* is thus made: Take common Sulphur, in Powder, four Ounces; melt it in an earthen Pan upon Coals; add to it a Pound of Quickſilver; ſtir them continually with an Iron *Spatula*, till they are united in a black Powder, and the Mercury ceaſes to appear; being cold, grind it in an Iron Mortar to a ſubtile Powder; put this Powder into a Glaſs Retort well luted, and diſtil with a naked Fire; firſt with a gentle Heat, then with a ſtronger; then in a few Hours the Mercury and Sulphur will ſublime into the Neck of the Retort, the whole appearing of a greyiſh Red, or a dark Red Colour; beat it into a fine Powder, ſublime it again, and you have a moſt pure red Vermillion. It has all the Virtues of the former: But Phyſicians have not given it inwardly ſo much as the former, though it be full as ſafe.

[*Cinnabar* was a Name given by the Antients to ſeveral different Subſtances, and in the Time of *Dioſcorides* to a red aſtringent Drug brought from *Africa*, and ſuppoſed to be the Blood of Dragons, which was in all Probability what we call *Sanguis Draconis* at this Time; the ſame Name was alſo given to the *Minium* of the Antients, which they deſcribed to be a Mineral Subſtance of a red Colour, from which Quickſilver was extracted, and in after Times the Words *Minium* and *Cinnabar* were indifferently uſed, to ſignify the ſame thing: The true *Minium* afterwards becoming ſcarce, they frequently adulterated it with Lead Ore calcined to a Redneſs, and that calcined Subſtance came to be called *Minium*, and the Word *Cinnabar* became appropriated to the genuine Mineral from which Quickſilver might be extracted. And in this Senſe of the Words, whatever the Antients have ſaid of *Minium* and *Cinnabar* may be underſtood without Confuſion.

The native or foſſile *Cinnabar*, is therefore the *Minium* of *Dioſcorides*; *Cinnabaris*, *Mathiol.* 1355. *Lapis Minium*, *Aldr. Muſ. Mel.* 627. *Minium purum ſeu Cinnabaris nativa*, *Worm.* 126. It is properly Quickſilver Ore: It is found ſometimes pure, and ſometimes mixed with Stones. Of the pure *Cinnabar* there are ſeveral Kinds, one of a purpliſh red, which by powdering, is brought to a moſt beautiful clear red, another of a duſky Colour reſembling the *Lapis Hæmatitites*, and a third of a yellowiſh Colour, which is commonly ſo rich in Quickſilver, that when heated in a very ſmall Degree, it drops ſpontaneouſly from it; another Kind is found in a foſſile Stone formed of various Laminæ of an Aſh-Colour, and it has ſometimes been found in a whitiſh Stone of a metalline

Texture, and ſometimes in form of a Gold and Silver *Pyrites*, ſuch as was dug up ſome Years ago, in ſeveral Parts of *Normandy*. It is alſo found in *Hungary*, *Bohemia*, *Italy*, *Spain*, and *France*. The Painters of old were extremely fond of it, but they ſeldom uſe it now, becauſe the factitious Sort is cheaper, and anſwers all their Purpoſes as well. It is alſo given internally in Epilepſies, Vertigoes, Madneſs, and all ſpaſmodick Affections; that of *Hungary* or *Carinthia* is to be choſen for this Purpoſe, and that which is of a ſparkling ſhining Red, and free from all heterogeneous Particles; the yellowiſh Kind, though containing more Quickſilver, is to be rejected as being more impure. Sometimes, however, the beſt choſen native *Cinnabar* by means of vitriolick, or perhaps even arſenical Particles aſſociated with it, happens to excite Nauſeas, Vomitings, Anxieties, Heat, Burnings, *&c.* even after all the Cleanſing that can be given it byfrequent Waſhings; and it muſt certainly, therefore, be moſt prudent to uſe either factitious *Cinnabar*, or that of Antimony, inſtead of it.

Factitious *Cinnabar*, or *Vermillion*, is a red heavy Maſs, friable, and marked with ſhining or ſilver Streaks, conſiſting of Quickſilver and Sulphur united by the Help of Chymiſtry, ſubliming the Mixture over a Fire.]

7. *Of the* Corroſive Sublimate, *and other Preparations of* Mercury.

Pomet. CORROSIVE *Sublimate*, which we have from *Holland* and *Venice*, is made of common Mercury or that revived from Cinnabar, Spirit of Nitre, Vitriol calcined to a Whiteneſs, and Sea Salt decrepitated, and by the Means of a ſubliming Veſſel reduced to a Lump that is white and ſhining.

That *Sublimate*, whether from *Holland* or *Venice*, is to be choſen, which is whiteſt and moſt ſhining, but the leaſt weighty and compact that is poſſible; but that is to be rejected that comes from *Smyrna*, which is weighty, and full of Sparkles, becauſe it is ſaid that it is made with Arſenick, which I cannot affirm, becauſe I am not certain of it; the beſt Way to prove it that I know, is to throw upon it a Drop of Oil of Tartar *per Deliquium*, or to rub it with a little Salt of Tartar; if it grows yellow, it is an infallible Mark that it is made of Mercury, and has the Qualities requiſite to it; on the contrary, if it turn black, it is to be rejected.

Corroſive Sublimate is made uſe of by ſeveral Perſons: as Surgeons, Goldſmiths, Farriers, and others. It is likewiſe uſed in Phyſick externally; but as it is one of the ſtrongeſt Poiſons we have, it ought not to be uſed without the greateſt Precautions; and the Perſons who retail it ought not to ſell it but to ſuch as have Occaſion for it by their Profeſſion, as the King's Ordinances require, by which it is expreſly forbid to ſell any Sorts of Poiſons, but to the Maſter of a Family: And theſe ſame Retailers are ordered to take a Note of him that buys it, declaring what he intends to do with it; and the Seller is to keep the ſame Drug under his own Lock and Key, ſo that no Body but himſelf may have the Sale of it. I hope this Advice will not be taken amiſs, becauſe it is deſigned for the public Safety.

Of Sweet Sublimate, *or* Mercurius dulcis.

The ſweet or dulcified Mercury, or Sublimate, called likewiſe *Aquila alba*, or the white Eagle, is corroſive Sublimate, and crude Mercury, reduced into a white Lump, with little ſhining Streaks, by the Means of Fire and Glaſs Matraſſes.

The ſweet Sublimate, or dulcified Mercury, ought to be white, ſhining, adorned with little hard Shoots, which being put to the Tongue, is inſipid; and reduced to Powder, is of a white Colour, a little upon the yellow. Great Care muſt be taken that it has been dulcified three Times at leaſt; for unleſs it has its neceſſary Qualities, that is, that it be very inſipid or without Taſte, it may produce very ill Effects. They who bring it from *Holland*, ſhould not ſo much look upon the beautiful Colour which the *Dutch* give it, as take heed that it has no Taſte: For to my Knowledge there has come ſome from *Holland* which might have had very ill Effects, if Care had not been taken; becauſe it had been ſublimed or dulcified but once.

The ſweet Sublimate is a very excellent Remedy to cure the Secret Diſeaſe, and to kill Worms in Children. The ordinary Doſe is from two Grains to thirty, taken in a *Bolus*, either of ſome Conſerves, or purgative Medicines.

Of the Mercurial Panacea.

The *Mercurial Panacea* is a ſweet Sublimate made of Mercury, revived from Cinnabar, and dulcified or ſublimated fourteen Times. I ſhall not be long upon this Point, becauſe the Directors of the Hoſpital of the Invalids have cauſed a long Tract concerning it to be printed. I ſhall only ſay, that this Medicine is very much demanded and valued, as well for its Novelty, as becauſe they pretend it is a general Medicine for the Cure of the abovementioned Diſeaſes; and they attribute ſo many Qualities to it, that they have given

it

it the Name of *Panacea*, which is as much as to ſay, the Univerſal Medicine. They commonly make up this *Panacea* into little Pills, with the Mucilage of *Gum Tragacanth*, and when they are dry, they differ little in Colour or Size from the Coriander Comfit.

Of the White Precipitate.

The *White Precipitate* is a Quickſilver diſſolved in the Spirit of Nitre, and precipitated by Salt into white Powder. This Powder, after having been well waſhed and dried, is what we called the true *White Precipitate* of Mercury, to diſtinguiſh it from other Sorts of *White Precipitate*, of which one is made of corroſive Sublimate, diſſolved in a Water made of *Sal Armoniack*, and reduced into a white Powder, by caſting the Oil of *Tartar per Deliquium* upon the Diſſolution, and afterwards waſhing it and drying it as that abovementioned. The third is made likewiſe of the corroſive Sublimate reduced to Powder and put into warm Water; and when the volatile Spirit of *Sal Armoniack* has been caſt upon it, there will remain a white Powder, which after having been waſhed and dried, has the ſame Properties as the two others, which is to raiſe a Salivation, or to mix with Ointments or Pomatums to cure Tetters and cutaneous Diſtempers.

As theſe Precipitates, and generally all Preparations of Mercury, are violent Remedies, in which one may run ſome Hazard; ſo they ought not to be uſed but with great Precautions, and the Advice of underſtanding Perſons. The *White Precipitate* of Mercury ſhews itſelf to be in a good Condition when it is white and weighty, and exhales, being put upon a burning Coal; on the contrary, if it remains upon the Fire, or runs into Lead, it is an infallible Sign that it is nothing but white Lead ground, or ſome other white Powder, as that of *Roan*, or the like.

The Precipitate made with Sublimate, is extremely white, and much lighter than that which is made of crude Mercury; which may ſeem ſtrange, becauſe every thing made of Mercury is generally weighty, and this is the Reaſon why they that do not know it will not take it, although it is as beautiful and as good as that which is made of crude Mercury.

Of Red Precipitate.

The *Red Precipitate* is Mercury diſſolved in Spirit of Nitre, and afterwards put into a Glaſs Cucurbit in a Sand Head, to evaporate the Humidity; which done there remains a Maſs, which, by augmenting the Fire, acquires a red Colour, ſuch as that which comes from *Holland* is of. As for thoſe *Red Precipitates*, which are made by the Artiſts in *Paris*, and other Parts of *France*, they have as many different Colours as there are People who make them, and there are few of them can come up to that of *Holland*. 'Tis this which makes the greateſt Part of the *Red Precipitates* which are ſold, to be ſometimes red, and ſometimes of an Orange, or ſome other Colour, and never ſhining, unleſs it be that which comes from *Holland*; however, I will not ſay but it may be as good, though it be not as ſaleable. There are likewiſe two other Sorts of *Red Precipitate*, one of a Roſe Colour, which is made when, inſtead of putting the Diſſolution of Mercury in the Spirit of Nitre upon the Fire, they pour upon it hot Urine, and there will ſoon be a Precipitate of a Roſe Colour, which being waſhed is good for the Worms or the Itch, and may ſerve for the ſame Uſes as the *Red Precipitate* made by Fire. The third *Red Precipitate* is made of Sublimate diſſolved in warm Water, upon which they pour the Oil of *Tartar per Deliquium*. Mr. *Lemery* ſays, that this Preparation of Sublimate is the true *Red Precipitate*, but that it does not act ſo violently as that of Mercury. Theſe two laſt Precipitates are very ſeldom uſed, becauſe the firſt is moſt in Vogue, which ought to be faithfully prepared that it may be good; and Care muſt be taken that it be not mixed with red Led, which may eaſily be known by rubbing it upon a Piece of Gold, for if it makes it white, it is a Sign that is good, and that it is made of Mercury; but if it makes it black, it is a Proof that it retains a Tincture of Lead, and that it is mixed with it. You may likewiſe put it upon the Fire, and it is a good Sign if it exhales: However, I muſt ſay, that that which comes from *Holland* is moſt preferable, as well becauſe it is more beautiful, and conſequently more ſaleable, as becauſe we can ſell it cheaper, eſpecially in time of Peace, than any that can be made in *France*.

Of Yellow Precipitate.

The *Yellow Precipitate*, or *Turbith Mineral*, is Mercury revived from Cinnabar, diſſolved in the Oil of Vitriol, and afterwards with lukewarm Water precipitated to a yellow Powder, which being waſhed and dried, is uſed as a ſtrong Purgative and Emetick.

They likewiſe make a *Yellow Precipitate*, by diſſolving powdered Sublimate in warm Water, and pouring Lime-water upon it, and the yellow Powder, which will be found at the Bottom, after being waſhed and dried, may paſs for *Yellow Precipitate*,

cipitate, or *Turbith Mineral*. Mr. *Lemery* ſays, this Diſſolution or yellow Water, is called Phagedenick Water, or Water for Ulcers, becauſe it is proper to cleanſe and heal Ulcers. The Surgeons make frequent Uſe of it in the Hoſpitals; but the common Phagedenick Water is Lime-water into which they have put a little Sublimate.

Of Green Precipitate.

The *Green Precipitate* is made of Mercury and Copper, diſſolved in Spirit of Nitre, and afterwards thrown down to a Powder of a green Colour, which is made uſe of to purge upwards and downwards; and, as ſome pretend, it is a Specifick to cure venereal Diſtempers.

It is obſervable, that the more Copper is uſed in this Operation, the more Acrity it has, and greater will be its Effect. This Precipitation is very little made uſe of, and was very little known, before the Sieur *Matte de la Faveur*, the King's Diſtiller at *Montpellier*, gave us a Deſcription of it.

Of the Oil *of* Mercury.

The *Oil*, or, to ſpeak more properly, the Liquor of *Mercury*, is Quickſilver diſſolved in the Oil of Vitriol, and reduced into a white Maſs by the Means of Fire, which being put in a Cellar, will diſſolve and be reduced to Water. You may likewiſe make it with ſweet Sublimate, and *Sal Armoniack*; or inſtead of *Sal Armoniack*, you may uſe Salt of *Saturn*, or in the Room of Salt of *Saturn*, Sugar-Candy; and ſo of ſeveral other Sorts enumerated by ſeveral Authors.

[The moſt uſed of all the Preparations of Quickſilver, is the *Mercurius Dulcis* (or *Calomel*, as it is called when it has undergone four more Sublimations) and that with great Reaſon, as it is the mildeſt and ſafeſt of them all; it purges gently, divides all viſcous pituitous Humours, kills Worms, and is the great Remedy in venereal Diſeaſes. The Doſe is from five to fifteen Grains at Night going to Reſt; but if this Method be continued for ſome Days without purging between, it will raiſe a Salivation.

The *Mercurial Panacea* of the *French*, which *Lewis* the Fourteenth purchaſed the Secret of making, and cauſed to be made public, is made of crude Mercury, purified by being firſt made into Cinnabar, and then revived from thence. Of this Mercury, corroſive Sublimate muſt be made and ſublimed three Times, the two firſt with Sea Salt, and the laſt without any Addition; Part of this Sublimate is to be again reduced to running Mercury, by diſtilling with *Regulus* of Antimony; and this running Mercury, mixt with the remaining Sublimate, muſt be made into a *Calomel* by nine Sublimations, which is to be put into an aromatized Spirit of Wine, and digeſted for three Weeks, and afterwards ſeparated from the Liquor, and dried for uſe. It is an excellent Medicine in Venereal, and all other Caſes where Mercurials are proper, and is the leaſt purging of them all; but the Tedioufneſs of the Preparation makes it never to be met with.

The other Preparations of Mercury have their Virtues, and thoſe very great, but are not to be meddled with but by thoſe who well underſtand them; and indeed they are ſo ſubject to Adulterations, that they often deceive thoſe who ever ſo well know what Effects they would produce if genuine and well prepared.

Of the Adulterations of the ſeveral mercurial Medicines in uſe, and the pernicious Effects of them, I could ſay ſuch Things as thoſe who have not ſo much examined into them could ſcarce believe, but ſhall not publiſh them here, leſt, while I am warning others to beware by ſhewing what the Adulterations are, and how to be diſcovered, I teach ſome of our modern Chymiſts, as they call themſelves, to be greater Villains than at preſent their Ignorance will permit them to be.]

8. *Of* Tin.

TIN, which the Antients called *White Lead*, is a white Metal which is not ſo hard as Silver, yet harder than Lead; it is full of Sulphur, and therefore melts eaſily. Some have given it the Name of *Jupiter*, becauſe they pretend it draws Influences from that Planet. They pretend likewiſe, that it is formed of Silver and Lead, becauſe in the Tin Mines there is ſometimes both Lead and Silver, and ſometimes Diamond-like Chryſtals, which are fixed to the Rock from whence they take the Tin. Theſe are naturally poliſhed, ſquared, and pointed, and are of different Sizes, ſome as big as a Nut; but they are not hard, nor will they cut like true Diamonds. It is ſaid that Tin is compoſed of Earth, and an impure Sulphur, a metallick Salt, and a Mercury a little finer and better digeſted than that of Lead, and that it is a Friend to Gold and Silver; for when they are once mixed, it is difficult to part them.

The greateſt Part of the Tin which we have in *France* comes to us from *England*, in Pigs of different Weight, and eſpecially from the County of *Cornwall*.

There are three Sorts of *Tin* at *Paris*; the plain

plain Tin, the common Tin, and Pewter. The plain Tin, which is the moſt beautiful, and the beſt Sort, is the *Engliſh* Tin, as it comes from the Mine; in working it they incorporate it with Tin-Glaſs, Roſe Copper, and a little Zinck to purify it. Pewter is *Engliſh* Tin mixed with common Tin and Tin-Glaſs. Mr. *Lemery* has very well obſerved, that theſe Matters which are compoſed of ſtiff and brittle Parts, being united with the Tin, make its Parts firm, and render the Metal more hard, ſolid, and compact, and ſo it becomes ſounding or ringing; for it is neceſſary that all ſounding Matter ſhould be compoſed of rigid Parts ſo diſpoſed, that being ſtruck upon, they ſhould be agitated and tremble, by hitting one againſt the other, which cannot be done by Tin alone, becauſe it is ſoft and pliant.

To know the Degrees of Goodneſs in Tin, they take a white Chalk that is found near *Tonnerre* in *Burgundy*, and of this Chalk they make a ſort of Mould into which they pour the Tin when melted; and by Means of this Chalk the Artiſts know what Standard it is of, by the little Lines or Furrows found in it; or elſe they caſt Tin Bullets in Moulds, and that which is found lighteſt is eſteemed the beſt Sort, and this is the great Art and true Way of knowing. Some Authors ſay, that Tin or white Lead is found upon the Surface of the Earth, amongſt the Sands, and in Torrents dried up; and that it is found in Grains, which being waſhed are caſt into Moulds, in the Shape we ſee them. Beſides the different Uſes we make of Tin, the Chymiſts perform ſeveral Operations with it, as ſhall be ſhewn hereafter.

Beſides the *Engliſh Tin*, there is ſome that comes from *Germany*, but it is not ſo good, becauſe it is only the Refuſe of that which ſerved to tin their white Iron. We have alſo ſome brought from *Lorrain*.

Of Tin *in* Leaves.

Tin in *Leaves*, called by the *French*, *Appeau*, is an hammered *Tin*, which the *Dutch* have painted on one Side with their Varniſh, making it of what Colour they pleaſe; as yellow, red, black, ſky-colour, *&c.* The *Tin* in *Leaves* ought to be uniform, well varniſhed, whole, and as evenly rolled as poſſible. The *Dutch* ſend it in Boxes which hold commonly a Groſs, that is twelve Dozen.

This *Tin* was once much uſed in *France* by the Wax-Chandlers, but at preſent its greateſt Uſe there is for Coats of Arms and Atchievements uſed on the Death of Perſons of Quality.

Of Tin *in* Powder.

They reduce *Tin* into *Powder* two Ways, either with beaten Charcoal, or with Chalk, as ſhall be afterwards ſhewn in the Chapter of Lead. They who work upon *Tin*, inſtead of grinding it to Powder, burn it, that is, calcine it, and reduce it to a grey Powder, which is that which we and the Pewterers ſell under the Name of *Putty* of *Tin*, and uſe it to burniſh their Hammers with, and others to poliſh their Steel Mirrors. They who would make this *Putty* extremely white, calcine it 'till it becomes of a moſt beautiful white Colour. This *Tin* calcined to ſuch a Whiteneſs, is what the Chymiſts call the *Ceruſe* or *Calx* of *Tin*, and others the *Spaniſh White*, or *Bezoar* of *Tin*.

Some Authors affirm, that *Tin* may be reduced into a *Calx* or *Ceruſe* by the Help of Urine, and that the Urine acts upon *Tin*, as Vinegar upon Lead. Beſides the Uſes that the Chymiſts have for this calcined *Tin*, it is much uſed by the Potters, who make of it their beautiful Varniſh, or white Enamel that is upon the *Delft* Ware. But it is obſervable, that this Ceruſe of *Tin*, before it can be uſed by the Potters, muſt be expoſed to the Weather for a Twelvemonth, that ſo the Air may make a ſecond Calcination; but Care muſt be taken that it have no Impurities among it, becauſe they would make ſo many Spots upon the Works.

Of Salt *of* Tin.

The *Salt* of *Tin*, is *Tin* calcined, upon which they have poured diſtilled Vinegar; by Means of Fire, and a cool Place, they draw thence a white Salt in little Cryſtals, which they make uſe for Tetters mixt with *Pomatum*. It ought to be dry, white, light, and in little Shoots.

Of Flowers *of* Tin, *or of* Jupiter.

They draw from *Tin* and *Sal Armoniack*, by the Help of a ſubliming Veſſel, white *Flowers* of *Tin*. Inſtead of *Sal Armoniack*, others uſe Salt-Petre refined. They make alſo of the Flowers of Tin, by Means of the volatile Spirit of *Sal Armoniack*, or Oil of *Tartar per Deliquium*, a Magiſtery of *Tin*, which being dulcified, waſhed in Water, and dried, is of a very fine White; ſo that being mixed with *Pomatum*, it is uſed for Paint. The Flowers of Tin are often put to the ſame Uſes as the Magiſtery.

Of the Diaphoretick *of* Tin.

The *Diaphoretick Tin*, which Mr. *Lemery* calls the *Jovial Diaphoretick*, or the *Antihectick* of *Poterius*,

Poterius, is made of fine *Engliſh Tin*, and the *Regulus* of Antimony with Iron, melted together; and afterwards, by means of Salt-Petre and divers Lotions, they draw thence a Powder which is uſed for Diſeaſes of the Liver, the Small-Pox, and malignant Fevers, as the ſame Author tells us.

Lemery. Tin is a Metal ſoft, malleable, ſulphureous, white, ſhining, a little harder than Lead, and very eaſy to be melted. The Antients called it *Plumbum Album*, white Lead. It is taken out of the Mines of *England*, and other Places, and brought to us in Pigs. At *Paris* we have three Sorts of it.

The firſt is that Tin which is without Mixture, as it comes from the Mine, and this is the true Tin. The ſecond is the common Tin, which is an Allay of the natural Tin of Lead and Braſs. The third is the ſounding Tin, or Pewter, which is a Mixture of Tin, Biſmuth, and Copper, and a little Zinck. They ſometimes put in ſome *Regulus* of Antimony, and its ſulphureous vomitive Salt is not to be feared upon this Occaſion, becauſe it is abſorbed and mortified by the great Quantity of other Metals with which it is incorporated.

Natural Tin is not ſounding, becauſe it is too ſoft and pliant; for to render any Matter ſounding, it is requiſite that it be compoſed of firm rigid Parts, which being ſtruck, may tremble and hit one againſt the other; which Quality is found in the Tin which is hardned and made ſolid by Biſmuth, or by Antimony and Copper. This Tin, when fine and well compoſed, is very much like Silver.

Natural Tin is looked upon as proper for Diſeaſes of the Liver and the Womb, but I have found but little of this Virtue in my Experience of it.

[*Tin* is the *Plumbum Candidum*, *Kentm.* 85. *Fabr.* 16. *Plumbum Candidum alias Stannum*, *Charl. Foſſ.* 85. *Stannum Jupiter*, *Mont. Exot.* 13. There is ſome Confuſion among the Antients about *Plumbum* and *Stannum*, Lead and Tin, as we engliſh thoſe Words. The *Greek* Authors often uſe the ſame Names indifferently to expreſs both; and their Interpreters have rendered the Word κασσίτερος, both by *Plumbum* and *Stannum*. *Pliny* however ſays, that Term means only what he calls *Plumbum Album*, which he makes to be different from *Stannum*, which he ſays is a Kind of *Plumbum Nigrum*, found in the ſame Veins with Silver. But either this Diſtinction of *Pliny* between *Plumbum Album* and *Stannum* is groundleſs, or elſe the *Stannum* of the Antients was nothing but the purer and more ſhining Part of the Lead, or a Mixture of the *Plumbum Album* and *Nigrum*, or *Plumbum Nigrum* and Silver. *Agricola* mentions three Kinds of *Plumbum*, one white, which we now call *Tin*, another of an aſh-colour, which is our Biſmuth, and a third black, which is our Lead. Tin therefore is properly the κασσίτερος of the *Greeks*, and the *Plumbum Album* of *Pliny*. It is found in ſeveral Countries; but the richeſt Mines are in *Cornwall* and *Devonſhire* in *England*: It is commonly got either in Grains, or from a ſtony Subſtance, ſometimes black, ſometimes yellow, and ſometimes whitiſh. Some of theſe Stones are very hard, others brittle and crumbling. When it is taken out of the Mine, it is ſeparated from the Stones and Earth by waſhing, and then melted and caſt into Moulds. Various Subſtances are found mixed with Tin Ore, particularly one which is ſoft, and of a ſaponaceous Nature, ſoluble in Water, and containing pellucid Stones like Cryſtals, and ſome of other Kinds. Tin is the lighteſt of all Metals, its ſpecifick Gravity to that of Gold is as three to eight; being laid on a Tile in the Focus of a great burning Glaſs, it emits a thick roapy Fume in great Quantities, leaving a fine white Calx behind, which if held longer before the Burning Glaſs, turns to ſmall Chryſtals, or little pellucid Filaments. This Subſtance cannot be melted any more without the Aſſiſtance of Charcoal, by means of which it is again revived into Tin. The Filings of Tin thrown into the Flame of a Candle take Fire, and make the Flame blue, emitting a Smoak and Smell like Sulphur mixed with Garlick. Hence it is evident, that Tin conſiſts of a a vitrifiable Earth, and a ſulphureous Principle, mixed probably with an arſenical Salt. It melts the moſt eaſily of all Metals, but is ſoluble only in *Aqua regia*. The principal Preparations of it are the *Sal Jovis antihecticum Poterii*, and *Aurum Moſaicum*, but they are neither of them much uſed at preſent.]

Of natural Biſmuth, *or* Tin-glaſs.

Watever Pains I have taken to diſcover if there were any ſuch thing as true natural *Biſmuth*, it has always been impoſſible for me to find it; and all thoſe with whom I have converſed, either by Word of Mouth, or Letter, have agreed that there was no other *Tin-glaſs* than that we ſell, which is an artificial one, as I ſhall ſhew preſently. However, I ſhall not be poſitive that there is no ſuch thing, but only ſay that is has not come to my Knowledge, and therefore I cannot contradict them who have written, that *Tin-glaſs* was a ſulphureous Marcaſite, which is found in the Tin-Mines, or

that

that it is a mineral Body, or half Metal, compoſed of the firſt Matter of Tin, which is yet imperfect; and that it is found in the Tin-Mines, and has a Subſtance that is very hard, weighty, brittle, and of a groſs Grain, ſmooth, white, and ſhining. They ſay likewiſe, that it is called *Tin-glaſs*, becauſe when it is beat to Powder, there appear in it ſeveral little Subſtances, ſmooth as Glaſs. They call it alſo the *Marcaſite*, by way of Excellence, becauſe it ſurpaſſes all others in Whiteneſs and Beauty. They ſay it contains an arſenical Salt, which is dangerous to be taken inwardly.

This however I ſhall venture to affirm, that they have all run into the Error of thinking the *Biſmuth* we ſell, a natural, whereas it is an artificial Subſtance.

Of the ordinary Tin-glaſs.

The common *Tin-glaſs*, which ſome call *Biſmuth*, is a Mixture of Tin, Tartar, and Salt-petre, from whence, by the Means of Fire and a Crucible, they draw a *Tin-glaſs* very white and pure, and much whiter than the *Tin-glaſs* that is brought from *England*. And this Difference, as I have been told, proceeds from nothing but the Degree of Fire.

Tin-glaſs may not improperly be called the *Regulus* of *Tin*, ſince it is ſo in Effect. And it is a Thing ſo probable, nay, ſo ſure, that the *Tin-glaſs* we ſell is artificial, that the very Figure demonſtrates it; for it is eaſy to ſee that it is a Metal melted and caſt in a Mortar, warmed and greaſed, as they do to other Sorts of *Regulus*. And it is ſo true, that *Tin-glaſs* is artificial, that I have made it myſelf, and am ready to ſhew it to thoſe who will not believe me.

Tin-glaſs ſhould be made Choice of, that is in fine Scales, white, and eaſy to break; and that is to be rejected which is in little Scales, and, in a Word, comes near the Figure of *Regulus* of Antimony, as well as that which being broke in two, has ſome greater and ſome leſſer Scales, and is of a dark Colour.

The Uſe of *Tin-glaſs* is for the Pewterers, who at preſent make uſe of it inſtead of *Regulus* of Antimony; or elſe for the Chymiſts, who from thence draw Flowers, and a Magiſtery, or white Precipitate.

To draw the Flowers of *Tin-glaſs* they calcine it, and with *Sal Armoniack*, and a ſubliming Veſſel, draw thence the Flowers, which when diſſolved in Water, and precipitated with the Spirit of *Sal Armoniack*, or Oil of Tartar, may be uſed as the Magiſtery of *Biſmuth* that I am going to ſpeak of.

Of the Magiſtery of common Biſmuth.

The Magiſtery of *Biſmuth*, which ſome improperly call the *Spaniſh* or Pearl White, is *Tin-glaſs* diſſolved in Spirit of Nitre, and precipitated into a white Powder, with a little common Salt, and afterwards well waſhed and dried. There are Peruke-makers that uſe this *Magiſtery*, for the making red Hair look of a light Colour; but this Trick will be eaſily diſcovered, becauſe the Colour will not remain long, eſpecially if the Peruke comes into the Rain.

The Magiſtery of *Biſmuth* is ſometimes uſed for the Face, by putting it into Pomatums, or diluting it with Lilly or Bean-flower Water. It is good for the Itch, becauſe, according to Mr. *Lemery*, it deſtroys the Acids or Salts that nouriſh that Diſtemper. One muſt take care not to be over-ſtocked with this *Magiſtery*, becauſe its Colour will from white become yellowiſh as it grows old, and ſo it will become unfit for Sale.

This *Magiſtery* ſhould be bought of honeſt Perſons, for there are a great many Cheats in it, and there is no body can anſwer for it but he that made it, and therefore you muſt not ſtand upon the Price.

Biſmuth is a metallick Matter, but it is hard, brittle, ſhining within, diſpoſed into ſmooth Shoots, bright and ſhining as little Pieces of Glaſs. This Matter is drawn from the groſs and impure Tin that is found in the Mines of *England*. The Workmen mix this Tin with equal Parts of Tartar and Salt-petre. This Mixture they throw by Degrees into Crucibles made red-hot in a large Fire. Afterwards, when the Matter is melted, they pour it into Iron Mortars that are greaſed, and there let it ſtand to cool. Then they ſeparate the *Regulus* that is at the Bottom from the *Scoria*, and waſh it well. It is the *Tin-glaſs* that one may properly call the *Regulus* of *Tin*. Some People ſay, that in the Tin of which they make *Biſmuth*, there is always a little Mixture of Arſenick. We can make *Biſmuth* in *France*, with ordinary Tin, Salt-petre, and Tartar, as I have ſaid; but it will be brighter than that of *England*, becauſe the Tin we uſe is purer than that they uſe in *England*. *Lemery.*

This Operation is the ſame as that of *Regulus* of Antimony; there is the ſame Detonation and Purification of the groſs Sulphur contained in the Metal; the looſer Parts of the Sulphur are elevated with the volatile Parts of the Salt-petre, and the Oil of Tartar, by the Detonation; afterwards the fixed Salts of the Salt-petre and the Tartar, which are become Alcalies, diſſolve the other Part

of the Sulphur, which renders the Tin hard and brittle, whereas before it was pliant and malleable; for this Sulphur made the Ductility, and the exact Ties between all the Parts of the Metal. It may likewiſe happen, that ſome ſmall Portion of the Salts of Tartar and Salt-petre may penetrate this *Regulus* of Tin, and ſo contribute to the making of it brittle.

Biſmuth is brought to us in round or orbicular Lumps, flat below, and round above, and of the ſame Figure with thoſe of *Regulus* of Antimony, which was caſt in a Mortar whilſt it was in Fuſion.

Tin-glaſs is to be made choice of in fine large Pieces, ſhining, whoſe Shoots are large, white, and ſparkling. The Pewterers mix it with their Tin, to render it more beautiful and ſounding.

It is reſolutive and drying, being beat to Powder, and made up either into an Ointment, or a Plaiſter.

Zinck, which has been mentioned above, is a ſort of Marcaſite, or a metallick Matter, reſembling Biſmuth, but leſs brittle, and in ſome Meaſure pliable to the Hammer. It grows in the Mines, and principally in thoſe of *Goſſelar* in *Saxony*. That is beſt which is hard, difficult to break, white, with Shoots that are large and ſhining. It is uſed to cleanſe and whiten the Tin, as they make uſe of Lead to purify Gold and Silver. The Workmen mix in their Caſting about ſix hundred Pounds of Tin, with one Pound of this Mineral.

Zinck is made uſe of in Solder: they likewiſe mix it with Copper to give it the Colour of Gold.

Zinck is reſolutive and drying, being applied outwardly.

[What our Authors deſcribe as *Biſmuth*, is indeed no more than a *Regulus* of Tin: but there is a true genuine mineral *Biſmuth*, which is the *Biſmuthum ſive Plumbum Cinereum*, *Worm.* 129. *Marchaſita ſive Biſmuthum*, *Schrod.* 456. *Biſmuthum*, *Wood. Att. Tom.* ii. p. 1. *Plumblum Cinereum*, *Agricol.* It is a metallick Subſtance, fuſible, but not ductile, very brittle and heavy, and diſtinguiſhable from Lead and Tin by its Colour, which is ſometimes ſhining like Silver, and ſometimes purpliſh; reſembling the *Regulus* of Antimony, but conſiſting of broader *Laminæ*, and ſtaining the Fingers. It is prepared by Artiſts, being firſt torrified, and then melted into a *Regulus*. It is often found in Silver Mines, and indeed wherever it is found, the Miners conclude they ſhall find Silver. The principal Mines of *Biſmuth* are in *Miſnia* and *Bohemia*: ſome pretend that it may be extracted from *Cobalt*, melted into a *Regulus*, but this wants Proof.

Biſmuth ſeems to have been unknown both to the *Greeks* and *Arabians*; for the *Arabian Marcaſite* was the *Pyrites*, as has been obſerved before. It is ſcarce at all uſed in Medicine, but a good deal is ſold to the Pewterers and Dealers in Hair.

Zinck is the metalline Part of *Lapis Calaminaris*.]

9. *Of* Enamels.

ENAMELS are Vitrifications made of Tin, Sand, and Pot-aſhes of *Alicant*, to which they give divers Colours, with different Metals, as ſhall be ſhewn hereafter. *Pomet.*

The *Enamels* come from *Venice* and *Holland*, and are in flat Cakes of different Sizes, and different Marks; ſome have the Name of *Jeſus*, ſome have the Figure of a Sun, and the like, from the different Workmen that made them.

The firſt is the *White Enamel*, which is the Baſis of all the others, and is made of Tin calcined, or Putty, of Sand and Pot-aſhes, which having undergone a great Fire, are reduced to a Paſte, and being cooled, become hard as a Stone. It is this white Enamel which they uſe at preſent for varniſhing their Earthen Ware, rather than Tin calcined and expoſed to the Air and Weather for a Year together, that Operation being too long. *White Enamel* is uſed by the Enamellers, Goldſmiths, and others: as for the Choice of it, there are none but they that uſe it, that can know the Beauty and Goodneſs of it; the Whiteneſs is more or leſs according to the Goodneſs of the Tin it is made of.

The ſecond *Enamel* is of a Gridelin approaching to a Slate Colour, which is white Enamel coloured with Azure.

The third is of a Sky Colour, which is a white Enamel coloured with Copper, and Cyprus Vitriol.

The fourth is of a Fleſh Colour, which is white Enamel coloured with the Perigord Stone.

The fifth is the Yellow, which is the White coloured with Ruſt of Iron.

The ſixth is Green, which is White coloured with Pin Duſt, or other Filing of Braſs.

The ſeventh is the Blue, which the Enamellers call the *Faux-lapis*, the falſe Stone; which is the ſky-coloured Enamel, made with *Lapis Lazuli*. Theſe Enamels will alſo make different Colours, that is, many Colours are made of one, by putting in more or leſs of the Metals, or Drugs, beforementioned.

Enamel is called *Encauſtum*, from a *Greek* Word ſignifying *Burning*, becauſe Enamel is made by a great Fire: but the *Encauſtum*, or *Enamel* of the Antients, was quite another Thing from that which we now uſe, and is ſuppoſed to be wholly loſt. The *Lemery*.

making

making Enamels is a Work almoſt of the ſame Nature with making artificial Gems, and a Mixture of the ſame Colours, with this Difference, that in Gems the Maſs is tranſparent, according to the Nature of them, but in this it is opacous and ſolid, it being Tin, which gives it ſuch a Body and Solidity. The Ancients made their chequered or Moſaick Work of it; and Goldſmiths now uſe it in colouring and enamelling of Gold.

As for Enamelling, theſe Things muſt be generally obſerved: that the Pots in which the Enamel is made, be glazed with white Glaſs, and able to endure the Fire: that the Maſs and Colours for the Enamel, be well mixed and incorporated: that the Enamel, when well mixed, refined, and of a good Colour, be taken out of the Fire with a Pair of Goldſmith's Tongs: that Care be taken that no Dirt or Aſhes fall in or mix with it.

The Way of making Enamel, is this: powder, grind, and ſearſe well the Colours, and mix them well firſt with one another, and then with the Matter for the Enamel, then ſet them in Pots in the Furnace; when they are all melted and incorporated, caſt them into Water, and when dried, ſet them into the Furnace again to melt, which they will ſoon do, and then make Proof; and if the Colour be too high, add more of the Matter for Enamel; if too light, add more of the Colour till it is exact, then take it out of the Furnace.

The common Matter for all Enamels, is thus made: take fine Lead, thirty Pounds; fine Tin, thirty three Pounds; calcine them together in a Furnace and ſearſe them; boil this Calx a little in fair Water in an Earthen Veſſel; take it off the Fire, and decant off the Water, which will carry off with it the finer Part of the Calx; put freſh Water to the Remainder, and boil and decant it as before; repeat this as often as the Water carries off any Calx; re-calcine the groſs remaining Calx, and then draw off again the more ſubtile Parts as before: then evaporate theſe Waters which carried off the Calx at a gentle Fire, that the Calx may not be waſted, which will remain at the Bottom much finer than ordinary. Take of this fine Calx, Cryſtal Frit made of Tarſo, which is a hard and moſt white Marble, ground and ſearſed fine, of each ſix Pounds four Ounces; of pure white Salt of Tartar, one Ounce; ſearſe and mix them well: Put this Mixture into a new Earthen Pot, giving it a Fire for ten Hours; then powder it, and keep it in a clean dry Place: of this Mixture all Enamels whatſoever are made.

Although theſe Enamels are not made uſe of in Medicine, yet they have their Virtues according to the Qualities of the ſeveral Drugs they are compoſed of; but they muſt be very well ground upon a Marble, if you would have them produce any Effect.

The white, the blue, and the yellow Enamel, are purely Deſiccatives, but the others are Deterſives and Deſiccatives.

To this Account might be added the Manner of preparing the *Encauſtum cæruleum*, and *Zaffera*, both much uſed by the Potters, Glaſſmen, and Enamellers; which are Preparations of *Cobalt*, to be treated of hereafter, and many others: But as they are of no uſe in Medicine, I judge it would be improper to give a long Account of them in this Place.

10. *Of* Copper.

COPPER is a Metal compoſed of a little Salt and Mercury, and abounding in Sulphur and Vitriol: it is alſo called *Venus*, from the Influences it is ſuppoſed to receive from that Planet: it is found in ſeveral Parts of *Europe*, but principally in *Sweden* and *Denmark*, from whence we have almoſt all that we ſell. *Copper* is taken out of the Mine in Sand and Stone, almoſt like Iron; and after it is waſhed and purified from the Earth mixt with it, it is caſt into Moulds of different Figures: To render it true Roſe *Copper*, they melt it the ſecond Time, and when it is well refined, they caſt it into Moulds of Sand, where it falls into Cakes that are not ſmooth, but as we ſee them. When they would make this *Copper* malleable, they melt it a third Time, and afterwards form it into Cakes of three Inches thick, and about fifteen Inches Diameter. Of theſe Cakes, put whole or in Quarters into the Fire, they make Plates, and of theſe Plates they make Cauldrons, by the Means of Hammers that work by a Water-mill, and the Plates are formed into the Veſſels by one that turns theſe Plates, with his Legs covered with Sheeps Skins, whereby he reduces them into what Shapes he pleaſes, with very little Uſe of his Hands. *Pomet.*

Copper is a Metal very hard and dry before it is melted; and when it has been often melted, it becomes ductile, and almoſt as malleable as Gold or Silver. From *Copper* the Chymiſts draw ſeveral Things very proper for divers Uſes, as ſhall be ſhewn hereafter.

Æs, ſive Cuprum, ſive Venus, that is, *Copper*, is a beautiful Metal, ſhining, of a reddiſh Colour, eaſy to ruſt, abounding in Vitriol. It is found in ſeveral Places of *Europe*, but principally in *Sweden* and *Denmark*; it is taken from the Mine in Lumps, which are ſuperficially waſhed to cleanſe it from the Earth that is mixed with it, and afterwards melted with *Lemery.*

vehement Fires. 'Tis to be obſerved, this Metal is very difficult to be melted: they purify it from its *Scoria*, and caſt it into Moulds. When the ſame Copper has been twice or thrice melted, it becomes more pure and ductile, and you have a red Copper more beautiful than the common.

Copper is a Metal of good Uſe in Phyſick, and is ſaid to ſtrengthen the generative Parts in Men and Women; but uſed crude in the Stomach in Filings, or the like, it is little better than Poiſon, being hot to the laſt Degree, and of a cauſtick Nature, cauſing Pain in the Stomach and Belly, Vomiting, Fluxes, Ulcers, and Difficulty of Breathing; and if it be calcined, it is yet worſe. The Cure, if any one be hurt with it, is by warm Water mixed with Oil, Oil alone and Butter, Hogs Lard melted and drank; and if it be got into the Guts, by Clyſters of the like Kind, Salt and Oil of Tartar, and other Alcalies; Juice of Mints, and ſuch other Remedies as are uſed againſt Arſenick.

Thin Plates of *Copper* infuſed all Night in Lime-water only, or in Lime-water mixed with volatile Salt, or Spirit of *Sal Armoniack*, make an admirable *Collyrium* for the Eyes to waſh with againſt Miſts, Clouds, Films, Pearls, Suffuſions, *&c.*

Copper is made or generated of a purple Sulphur, a red Salt, and a Citrine Mercury.

[*Copper* is a Metal ſofter than Iron, ſonorous, ſhining when poliſhed, fuſible, and ductile to a great Degree. It is found in the Mines ſometimes pure, in form of ſmall Rods, Branches, Globules, or Maſſes of different Figures, but commonly is contained in a particular Ore. This, in ſome, is of a ſhining Gold Colour, which ariſes from its Sulphur, and does not ſhew it to be at all the richer; in others it is yellow, Violet coloured, purpliſh, bluiſh, or blackiſh, mixed with gold coloured Sparkles, and green Streaks. *Copper* is ſeldom found alone, but generally accompanied with ſome other Metal, as Silver, Iron, or Lead, and with a large Quantity of a combuſtible Sulphur, hard to be ſeparated from it. Theſe different Ores, are differently managed by the Workmen, according to the different Subſtances they contain: thoſe which contain the greateſt Quantities of Sulphur, muſt ſometimes undergo nine or ten Torrefactions before it can be exhaled; and if Silver is contained in it, they ſeparate it by means of Lead.

There are ſome Springs of *Copper* Waters, from which Vitriol may be made by Evaporation, and *Copper* may be precipitated from them by means of Iron, which has made ſome believe they turned Iron into Copper. The moſt famous of theſe Springs is that in the *Carpathian* Mountains, which will turn a Horſeſhoe of Iron into the Appearance of a Copper one in a very little Time, even corroding the Iron, and ſubſtituting, in ſome Degree, *Copper* in its Place. The ſpecifick Gravity of *Copper* is to Gold as four to nine nearly: when expoſed to Moiſture, it contracts a green Ruſt: it is ſoluble in Water, and to be corroded by all Oils and Salts, its Solution by Acid or fixed alkali Salts is green; by urinous blue: The Filings thrown into the Flame of a Candle burn and emit a greeniſh Flame, but do not ſparkle. *Copper* long calcined, turns to reddiſh Aſhes, which, placed on a Tile before a Burning-glaſs, turn to an intenſely red Glaſs almoſt opake; and this Glaſs laid on a Piece of Charcoal, before the ſame Glaſs, revives into *Copper*. Hence it is evident, that *Copper* conſiſts of a large Quantity of a combuſtible Sulphur, and a red vitrifiable Earth, which ſhewed itſelf pure in the Fire when the Sulphur was all exhaled. It is little uſed in Medicine, for its Salts are truly poiſonous.]

11. *Of* Yellow Copper, *or* Braſs.

YELLOW *Copper*, is old or broken *Copper* melted and made yellow by means of the true *Calaminaris* Stone. The greateſt Quantity of Braſs or yellow Copper, is made in *Germany* and *Flanders*. They beat this Braſs, and reduce it to the Thinneſs of Paper; and this is what we call Tinſel. They afterwards beat this Tinſel over again, and make it extremely thin, and afterwards put it into little Books of Paper, and call it *German* Gold. They grind this *German* Gold to Powder, to make a Bronze Powder for the Caſters of Statues in Plaiſter, *&c.* which has more or leſs Colour, according to the ſeveral Times that it has paſſed the Fire. They alſo grind this Braſs over and over again, 'till it becomes an impalpable Powder, which they ſell under the Name of *German* Gold in Powder. Others put this Powder Gold into Muſcle Shells, and call it Shell Gold. That Shell Gold is moſt eſteemed that comes from *Augſburg* in *Germany*, and has the Name of *Auguſta*. As to the Choice of the *German* Gold, either in the Leaf, the Powder, or the Shell, that which is fineſt, and higheſt in Colour, is eſteemed the beſt. The *German* Gold is uſed by Painters, eſpecially ſuch as paint in Miniature. The Painters Bronze is likewiſe uſed by them; and alſo to make Figures of Plaiſter have a Braſs or Copper Colour, and for other Uſes.

Beſides the different Preparations that are made of this yellow Copper, the *Venetians*, as I am aſſured, make of it that which the *French* call *Purpurine*,

purine, which heretofore was made uſe of upon Coaches. By means of this yellow Copper, and the Help of Fire, they make that Sort of Vitrification, which the Enamellers call *Avanturine*; and they ſay the Name was given it becauſe this Operation was found by Accident, and without being thought of, by ſome Duſt of yellow Copper which fell into a Furnace where Glaſs was melting. *Avanturine* is all embelliſhed with Spangles of gold Colour. There is alſo an *Avanturine* that is found naturally in ſeveral Places of *France*.

Aurichalcum, yellow Copper, or *Leton*, *Lemery*. is a Mixture of Copper and *Calaminaris* Stone melted together by a very vehement Fire in Furnaces made on Purpoſe. The Diſcovery was made by the Alchymiſts, who endeavouring to turn Copper into Gold, found how to give it a yellow Colour. The greateſt Part comes from *Flanders* and *Germany*. The *Calaminaris* Stone embarraſſes and extends the acrid Salts of the Metal to that Degree, that Braſs does not make the ſame Impreſſion on Liquors, as the red Copper. Beſides, as the *Calaminaris* Stone coſts but little, ſo the yellow Copper is cheaper than the natural.

That which we call Tinſel, is yellow Copper beat to a Leaf as thin as Paper, and is uſed by the Lacemen.

German Gold is Tinſel beat very thin, and kept in little Paper Books for the Uſe of Painters.

The Painters Braſs is the *German* Gold ground to Powder, which is put into little Shells, and called Shell Gold. It is uſed to colour Figures made in Plaiſter, and by them who paint in Miniature.

The common Braſs, which the Workmen call Metal, is an Allay of Copper with *Leton*, or with Tin. They make divers Sorts, which only differ according to the Quantity of Tin which is mixed with the Copper; the Mixture is from twelve Pounds to five and twenty Pounds, to the hundred Weight of Copper.

They uſe Braſs for Clocks, Mortars, and ſeveral other Works. The beſt is that which gives the cleareſt Sound when you ſtrike it.

[*Braſs* is the *Orichalcum*, *Charlt. Foſſ.* 47. *Ald. Muſ. Met.* 126. *Æs flavum*, *Worm.* 122. It is made by melting the Copper and *Lapis Calaminaris* together, which at firſt ſend forth a red Flame, afterwards a blue one, and finally a yellow, which is the Sign by which they know it is perfectly made; when it is cold, it is found to have gained about one third in Weight from the Quantity of the *Lapis Calaminaris* the Copper has taken up, and yet remains as ductile as before, for it may be drawn out into very fine Wire, or beat into very thin Leaves.]

12. *Of* Pompholyx, *or* Flowers *of* Braſs.

THE *Pompholyx*, called *White Calamine*, *Nil*, *Nihil*, *Nihili Album*, or Flowers of Braſs, and improperly, Bronze Aſhes, is that which ſticks to the Cover of the Crucible, and the Pincers of the Founders, when they melt Braſs; and it is certain that nothing but Braſs gives the true *Pompholyx*, and not the caſt Copper, nor the Metal, nor Bronze, as the greateſt Part of the Authors have written. *Pomet.*

Although this *Pompholyx* be eaſy to be come at, yet there are not many Drugs more unknown; which proceeds from the Negligence or Ignorance of the Apothecaries, becauſe they take Tutty and the *Pompholyx* to be the ſame Thing, and therefore they uſe the Tutty inſtead of it.

The beſt *Pompholyx* comes from *Holland*, not that it is in Reality better in Subſtance than any other, but better collected and preſerved. That *Pompholyx* ought to be choſen which is very white, light, friable, clean; it matters not whether *French* or *Dutch*, ſo it be very white.

They who caſt Bells may gather a little of it; but becauſe it is but in very ſmall Quantity, it is not worth while to look after it. Its principal Uſe is externally in Ointments, particularly that which bears its Name, and of which it is the Baſis.

The *Pompholyx*, called in *Latin*, *Nil*, *Nihili Album*, *Capnites*, *Bulla Cadmica*, *Calamites*, is a Flower of Braſs, white and light, which is found ſticking to the Cover of the Crucible in which they melt Copper with the *Lapis Calaminaris* to make Braſs or Leton. It is found likewiſe ſticking upon the Founders Tongs: But either through Negligence in collecting this Drug, or becauſe the Workmen let it fall in the Fire when they uncover the Crucibles, we rarely find it amongſt the Druggiſts, and are therefore obliged to ſubſtitute Tutty in the Room of it. *Lemery.*

The *Pompholyx* ſhould be light, very white, and crumbling. It is deterſive, deſiccative, proper for Wounds. It is not much uſed, but externally for Ointments. Some give from half a Scruple to two Scruples in Intermitting Fevers. It excites Vomiting very violently.

[*Pompholyx* is the *Nil Album*, *ſive Pompholyx*, *Wood. Att. Tom.* ii. p. 50. *Pompholyx*, *Worm. Muſ.* 135. *Kentm.* 72. *Charlt. Foſſ.* 55. *Ald. Muſ. Met.* 16. It is a fine white Flower, or Soot, which ſticks to the Arch of the Furnaces and Covers of the Crucibles in which Calamine and

Copper

Copper are melted together for the making of Braſs; it has the ſame Virtues with Tutty, to be deſcribed hereafter, which is generally uſed in its Place. This is the Hiſtory of the *Pompholyx* we uſe; but it is to be obſerved, that this is not the *Pompholyx* of the Antients, which is now wholly unknown in the Shops, and of which *Dioſcorides* mentions two Kinds, one of a Kind of Copper Colour, and moiſt or fatty; the other very white and ſmooth: The Origin of the firſt of theſe is uncertain, but the laſt, he ſays, was made by the Copperſmiths, who, in endeavouring to meliorate that Metal, threw it into large Quantities of powdered *Cadmia*; the fine Duſt that aroſe from this Mixture, concreted into *Pompholyx*. They likewiſe made it by burning *Cadmia* alone in Furnaces for having thrown it in ſmall Pieces into the Fire, near the Nozel of the Bellows, they blew the moſt fine and ſubtile Parts againſt the Roof of the Furnace: This was the *Pompholyx*, and what was reflected back from thence, was the *Spodium* of the Antients, which was heavier, and of a blacker Colour. Both theſe Subſtances might ſtill be had, if their Virtues made them worth the Trouble of preparing: But the Tutty is generally eſteemed to have all their Qualities, and is, as before obſerved, conſtantly uſed in their Place.]

13. *Of the* Æs Uſtum.

Pomet. THE *Æs Uſtum*, or burnt Copper, is made of red Copper cut into little Plates, and put into a Crucible with Sulphur, and a little common Salt, *Stratum ſuper Stratum*, and put into a great Charcoal Fire; when the Sulphur is burnt away, and the Copper taken out, it is of an Iron Colour without, and reddiſh within, being ſhining and very brittle.

The *Æs Uſtum*, if it be in a good Condition, ſhould be moderately thick, and of the Colour beforementioned; and being rubbed one upon another ſhould make a Red like that of Cinnabar, which the *Æs Uſtum*, or burnt Copper cannot do, unleſs ſome Salt be put to it, which is the Secret of the *Hollanders*, whereby they make it better than that of *France*.

The *Æs Uſtum* is of ſome ſmall Uſe in Phyſick, becauſe it is deterſive; but they who make Uſe of it, firſt make it red-hot in the Fire nine Times, and quench it as often in Lintſeed Oil, and then reducing it to Power, uſe it for eating off dead Fleſh; and they call this Powder of the *Æs Uſtum*, ſo prepared, *Crocus*, or Saffron of Copper.

[This has formerly been much in Uſe among Chirurgeons, but the Tedioufneſs of the Preparation, as there is no making it without long and violent Calcination in a Reverberatory Furnace, has made it now little uſed, and but ſeldom ſeen in the Shops: it is drying and aſtringent, with ſome Degree of Acrimony.]

14. *Of* Verdigriſe.

THE natural *Verdigriſe* is a greeniſh Marcaſite like the Droſs of Iron; it is found in Copper Mines, but is of no Uſe that I know of.

The common *Verdigriſe*, or Ruſt of Copper, is made of Plates of red Copper, and the Skins of Grapes, after preſſing, ſoaked in good Wine, put together in a large earthen Pot, *Stratum ſuper Stratum*, that is to ſay, they put an Handful of thoſe Skins at the Bottom of the Pot, and then a Layer of Copper, then another of Skins, and on that another of Copper, and ſo on till the Pot be full; then they put it in a Cellar, and after ſome Days Time they take out theſe Copper Plates, which are covered with a green Ruſt, by the *Latins* called *Ærugo Æris*, and this Ruſt being ſcraped off, the Plates are put in again after the ſame Manner as before; and this muſt be repeated till the Copper is conſumed, or rendered ſo thin, that it may be mixed with the *Verdigriſe*, as it often happens. The moſt Part of the Authors who have treated of *Verdigriſe*, tell us, that it is made with Vinegar, which is not true, for the beſt Wine is not too good for it; and this is ſo true, that there is ſcarce any but *Languedoc* Wine that will make good *Verdigriſe*. It is in and about *Montpellier* that the greateſt Part of the *Verdigriſe* uſed in *France* and other Countries is made, and it is a Commodity very difficult to make, and to hit right, although it ſeems as if nothing were more eaſy; for if never ſo little happens to be amiſs, it grows greaſy and black, and good for nothing, and will never come to a true Conſiſtency. Had not the Receipt been ſtolen from me, I would have told you how they do it at *Montpellier*, which I hope to recover and preſent the Reader with, in the ſecond Edition.

There are ſome Authors, who ſay, that one may make *Verdigriſe* by putting Plates of Copper in a Crucible, with Salt, Sulphur, and Tartar, which being calcined and cooled, the Plates are converted into a very good *Verdigriſe*; but theſe Operations, ſuppoſing them to be true, are at preſent of no Uſe, becauſe all the *Verdigriſe* we ſell, is made in the forementioned Manner.

We have two Sorts of *Verdigriſe* from *Montpellier*, the one in Powder, the other in Cake: To be good, it muſt be dry, of a beautiful deep Green, and with the feweſt Spots poſſible. *Verdigriſe* is a Merchandize that loſes extremely in keeping,

keeping: thoſe who deal in it, mix it with ſeveral Drugs, that there is no Neceſſity of naming, and render it ſo moiſt that the Merchant loſes much by the Waſte of it, beſides what he alſo loſes by the Skin which covers it, for which he pays as much as if it were *Verdigriſe:* Therefore they who uſe it ſhould conſider its Goodneſs, and not ſtand upon the Price; for I can affirm, that there is no Cake of *Verdigriſe*, ſuch as they ſend from *Montpellier*, that weighs twenty-five Pounds, but after it is dry has loſt a third Part; ſo that the *Verdigriſe* that coſt twenty Pence when ſoft, will be worth near eight and twenty Pence when thoroughly dry.

Verdigriſe is a Drug very much demanded, and the Quantity of it that is uſed is almoſt incredible, not only in Phyſick, but by Dyers, Skinners, Hatters, Farriers, and Painters; but it is remarkable, that *Verdigriſe* alone, ground with Oil, cannot be uſed as a Green in Painting, but it is abſolutely neceſſary to add white Lead to it, for otherwiſe, inſtead of being green, it would be black. As for the Properties of *Verdigriſe*, the Principal of them is eating off dead Fleſh. The Apothecaries uſe it in ſome Ointments and Plaiſters, as the *Ægyptiac*, the *Apoſtolorum*, the Divine Plaiſter, and others. They who colour Paper green, make uſe of *Verdigriſe* and white Tartar to give it that Colour.

The Apothecaries and others, who have Occaſion for *Verdigriſe* in the aforementioned Compoſitions, and others, inſtead of the Powder, may diſſolve it in Vinegar, and ſtrain through a fine Sieve, and ſo avoid, in reducing it to Powder, the Effects of the ill Quality of the flying Duſt of *Verdigriſe*.

Verdigriſe, in *Latin Ærugo*, or *Viride Æris*, is a Ruſt of Copper penetrated and rarefied by the acid tartarous Salt of Wine. To make it, they ſtratify Plates of Copper with the Grape Skins when the Muſt is taken from them, and leave them in that Maceration till they are in part converted into a bluiſh green Duſt, which they ſeparate with Knives, and continue the Operation as before, till the whole be turned into *Verdigriſe*. This is commonly the Work of the Women in *Languedoc*, *Provence*, and *Italy*, where the Refuſe of the Grapes have the greater Force to penetrate the Copper, and work upon it with their Salt.

Verdigriſe, or *Lemery.*

It deterges powerfully, it conſumes proud Fleſh, it attenuates and reſolves, and is uſed only in external Medicines; it is ſharp and digeſting, and cicatriſes Ulcers, being mixed with Oil and Wax, and applied. It likewiſe cleanſes them from their Filth and Putrefaction, although they were the moſt ſtubborn, and had reſiſted all other Remedies.

It is of good Uſe in the Gout, being diſſolved in fair Water, and uſed warm to the Part.

It cures Diſeaſes of the Eyes, and effectually takes off Pearls and Films. But before you uſe it for the Eyes, or for Wounds or Ulcers, you muſt purify it after this Manner: Powder it, and put upon it Spirit of Vinegar ſix or ſeven Times its Weight; digeſt till the Vinegar is tinged very green, which decant, and caſt away the Fæces; then evaporate the Vinegar in a Braſs Veſſel, and ſo you will have a glorious *Verdigriſe* at Bottom, of which one Ounce is worth ten Ounces of the former.

Take of this fine *Verdigriſe* a Drachm; Spirit of *Sal Armoniack*, half an Ounce; Spirit of Wine camphorated, two Ounces; mix them for a *Collyrium* to waſh the Eyes. Take the White of an Egg beaten well with Spring Water, four Ounces, and add to it *Saccharum Saturni*, ten Grains; white Vitriol, ſix Grains; and ſo many Drops of the *Collyrium* as may make it of an Azure Colour, with this waſh the Eyes two, three, or four Times a Day.

This fine prepared *Verdigriſe* being made into an Ointment with Honey, Juices of Wound Herbs, Vinegar, and abſterſive Sulphur of Vitriol, is applicable to weeping Wounds, Ulcers in the Joints, *&c.*

[The Manner of making *Verdigriſe* is this: The Huſks, Stones, *&c.* of Grapes being firſt dried, and after dipped in ſtrong Wine, are laid in wooden or earthen Veſſels for nine or ten Days, till they begin to ferment; then being ſqueezed together with both Hands, they are formed into Balls, which are put into proper earthen Pots, and have Wine poured over them, till about half is covered; the Veſſels have a Straw Lid thrown over them, and are ſet in a Wine Cellar, where the Balls are left in Maceration for twelve or fifteen Hours, being turned every four Hours, that the Wine may penetrate every Part of them; afterwards the Balls, being raiſed a Finger's Breadth above the Surface of the Wine, and ſet upon wooden Bars, the Veſſels are ſhut again, and left in that State for ten or twelve Days more. After which Time the Balls emit a ſtrong and penetrating Scent, and are then fit for diſſolving Copper. For this Purpoſe they are broke and bruiſed with the Hand, and the outer Part, which is drieſt, is mixed exactly with the inner, which is ſtill moiſt with Wine. Then they are ſtratified with Copper Plates in the ſame Veſſels upon wooden Bars; the Plates making always the loweſt *Stratum*, and the Balls the uppermoſt. The Plates are four Inches long,

and

and three broad; and if the Copper be new, they muſt be previouſly buried for four and twenty Hours in *Verdigriſe*, and then heated a little in the Fire. The Veſſels being filled in this Manner, and ſhut cloſe, are left without any farther Management till the *Verdigriſe* is made, which happens ſooner or later, according to the Nature of the Copper; ſome yielding its Ruſt in ſix Days, and ſome requiring fifteen or ſixteen Days. The *Verdigriſe* being compleatly extracted, the Plates covered with it, are taken out of the Veſſels, and their Edges being moiſtened with the ſtrongeſt Wine, they are wrapped up in Linen Cloths dipped in the ſame, and laid in a Wine Cellar for three Weeks, and then it is ſcraped off the Plates, and kept for Uſe.

This is the Method uſed at *Montpellier*, which I have been the more particular in relating, becauſe our Author ſays he intended to have given it, but that the Receipt was ſtolen from him.]

15. *Of* Verdigriſe *cryſtallized.*

Pomet. THE cryſtallized *Verdigriſe*, or Cryſtals of *Verdigriſe*; or, as it is called by Merchants and Painters, Calcined or Diſtilled Verdigriſe, is Verdigriſe diſſolved in diſtilled Vinegar, and afterwards filtred, evaporated, and cryſtallized in a Cellar. Theſe Cryſtals are of ſome ſmall Uſe in Phyſick, to conſume dead Fleſh. They are likewiſe uſed by Painters to make a green Colour, eſpecially for Miniature.

All the Cryſtals of Verdigriſe that we ſell in *Paris*, come from *Holland* or *Lyons*, and are not unlike Sugar-candy, except in Colour, eſpecially to that which is on Sticks: if good, theſe Cryſtals muſt be beautiful, clean, and tranſparent, very dry, and as free from Sticks as poſſible. Here it may be obſerved, that the Verdet which the Apothecaries make, is reduced to Cryſtals by the Means of a Cellar, whereas that which comes to us from the Places beforementioned, is made after the Manner of Sugar-candy, as I have been informed.

I cannot tell what has induced the Merchants to call theſe Cryſtals Diſtilled or Calcined Verdigriſe, ſeeing it is neither diſtilled nor calcined, but made after the forementioned Manner.

They likewiſe make Cryſtals of Verdigriſe by diſſolving Copper granulated in Spirit of Nitre, and afterwards evaporating to a Scum or Pellicle, and ſetting it in a Cellar to cryſtallize.

If you would reduce theſe Cryſtals to a Liquor after having dried them, you muſt carry them back to the Cellar to reſolve them into Water; and this Liquor is called by the Apothecaries or Chymiſts, the Liquor of Copper or *Venus*, and the Cryſtals the Vitriol of *Venice* or Copper.

[Theſe Cryſtals diſſolved, make an admirable Liquor to deterge and dry Ulcers, and eat away fungous and callous Fleſh; and are a good Ingredient, in ſmall Quantities, in Eye-Waters for clearing the Eyes from Specks and Films.]

16. *Of the* Mountain Verdigriſe, *and* Flowers *of* Braſs.

Pomet. THE Mountain or *Hungarian Verdigriſe*, is a Sort of greeniſh Powder in Grains, like Sand, which is found in the Mountains of *Kernauſen* in *Hungary*. It is found likewiſe in the Mountains of *Moravia*. What the Antients call Flowers of Braſs, is made by throwing Water, or rather Wine, upon Roſe Copper, whilſt red, that is to ſay, as it comes out of the Furnace; and this Flower is gathered and found ſticking to other Plates of cold Copper, which they place over them, in ſmall Grains like Sand, and this is made by Vapours which ariſe when they throw Water or Wine upon the hot Copper; and it is that which makes what we call Roſe Copper to be ſo unſmooth, and to be full of little Figures. Others have aſſured me, that the Mountain Verdigriſe was Plates of Copper diſſolved in Wine, and made almoſt after the ſame Manner as Verdigriſe; but as I know no more of it, I ſhall only ſay, that ſuch is to be made choice of as is dry, of a high Colour, well granulated, that is to ſay, like Sand, which is the Mark of natural Mountain Verdigriſe, and makes the Difference between that and the Artificial, which ſome make by pulverizing Verdigriſe, and putting a little white Lead amongſt it.

The Verdigriſe of the Mountain is of no other Uſe but in Painting, principally for making a Graſs Green.

As it is a dear Commodity, and comes from ſeveral Parts, ſo there are different Sorts of it, and different Prices; therefore they who uſe it, ſhould regard the Qualities of it, rather than the Cheapneſs.

[The firſt of theſe is the *Viride Montanum Hungaricum*, *Wood. Att.* 2. *a.* 52. It is not uſed in Medicine, but ſometimes by the Painters.

The *Flos Æris*, *Worm.* 132. *Ch. Foſſ.* 54. is a ſmall granulated reddiſh Subſtance, got by pouring cold Water on melted Braſs, and receiving its Vapour on an Iron Plate. It is commended as an Ophthalmick and Detergent, but is now never uſed nor kept by the Druggiſts.]

17. *Of*

17. *Of* Bronze *and* Bell-Metal.

THIS Bronze Metal, according to Monſieur *Furetiere*, is a Compoſition of Metals, the Principal of which is Copper melted with ſome Part of Tin, or of Braſs; ſome, for Cheapneſs, put in Lead. There is likewiſe another Compound of Copper, which is called *mixed Metal*, or *Bell-Metal*; they give one or the other of theſe Names according to the greater or leſſer Quantity of Tin that is mixed in it, which is from twelve to five and twenty in the hundred. The Dregs of mixed Metal are called *Diphryges*, and are uſed in Phyſick. The Scales of Braſs is what falls from the Braſs when they hammer it and work it.

Diphryges is of a mixed Faculty, meanly aſtringent, ſharp, and of excellent Uſe againſt ſpreading Ulcers. It cleanſes, dries, and conſumes Excreſcences, and being made into a *Collyrium*, is good for dropping Eyes, and ſuch like Diſeaſes of the ſame. The beſt is that which has the Taſte of Braſs, or the Ruſt of it, being aſtringent, and very much drying the Tongue.

As for the Metal itſelf, we uſe it for making Figures, Bells, Mortars, and other Utenſils. The beſt of it is that which is whiteſt, and ſounds like Silver. I ſhould not have been ſo long upon this Head, if it had not been for the ſake of Tutty, which is procured from it, and is deſcribed under the following Head.

[The *Diphryges*, *Charl. Foſſ.* 55. *Aldr. Muſ. Met.* 14. *Worm. Muſ.* 133. is a Recrement of Braſs, which ſubſides on wetting it while in Fuſion; it is acrid and aſtringent, and therefore excellent in ſtubborn Ulcers, but at preſent it is unknown in the Shops.

The Scales, or *Squamæ Æris* of the Shops, are little different from the *Æs Uſtum*, being only the Particles of burnt Copper, which fly off while it is hammered: mixed with Sulphur and *Florentine Orrice* they cure ſtinking Feet, being worn in the Shoes; but this may be attended with very ill Conſequences, for the ſudden Checking the Sweat, which occaſions that Stinking, may bring on Diſeaſes of a much worſe Kind.]

18. *Of* Tutty.

TUTTY of *Alexandria*, or the *Spodium* of the *Greeks*, is a metallick Subſtance in Scales or Gutters, of different Size and Thickneſs, ſmooth within, and rough without, with a Sort of Excreſcences, like Pins Heads; for which Reaſon the Antients called it *Spodium*, or *Tutty* in the Cluſter. The *Tutty* which we ſell in *France* comes from *Germany*, and other Places, where they make mixed, or Bell-Metal. It is wrong to think, what moſt Authors, both new and old, have aſſerted, that *Tutty* is got from the yellow Copper or Braſs, and that it is made at the ſame Time as the *Pompholyx*; for this is not true, ſeeing the *Tutty* is found ſticking to Rolls of Earth, which are hung up, and placed on purpoſe on the Top of the Furnaces where the Founders caſt their mixed and Bell-Metal, to retain the Fume or Vapour, which is like the Smoke in Chimneys; and by the Means of theſe Rolls, the Vapour is retained and reduced into a Shell of the ſame Figure as the Roll: And the Thing is ſo certain, that if one will but look amongſt the *Tutty*, one may frequently find the Earth ſticking to it, therefore it is not made by ſticking to the Bottom or Sides of the Furnace. And that which confirms this is, that all the *Tutty* we have is in Form of a Gutter, and roundiſh.

Tutty ought to be in bright Scales, thick, granulated, of a fine Mouſe Colour without, and a pale Yellow within, hard to break, and as little mixed with Foulneſs as poſſibly can be. *Tutty* has no other Uſe, that I know of, but in Medicine, and that not till it is well beaten. Others burn it, and after waſh it, and make it up into little Balls, which they uſe for Diſeaſes of the Eyes, mixing it with freſh Butter, or diluting it with Roſe or Plantain Water. *Tutty*, well prepared, and incorporated with freſh Butter, is an excellent and ſure Remedy for the Piles. That is moſt eſteemed which comes from *Orleance*, either becauſe it is better prepared, or becauſe it has all along carried the Vogue with it.

Tutty is brought from *Sweden*, *Cyprus*, *Greece*, *Turkey*, and *Ægypt*; but the *Cyprian* is the beſt. It was heretofore brought from *Alexandria*, and therefore Authors, in their Deſcriptions, call it *Tutty* of *Alexandria*. The Difference between the *Pompholyx* and the *Tutty*, or the grey *Spodium*, is this; the *Pompholyx* is more white and light, like volatile Meal; the latter is nearer the Colour of Braſs, heavier, thicker, and fattiſh, which with Vinegar yields a Smell like Braſs. *Tutty*, by ſome, is accounted the better Medicine, and more powerful for the Uſes intended. *Cadmia*, calcined by a violent Fire, and brought to Aſhes, is ſold for *Tutty*; but this is a Cheat: Burnt Ivory is alſo ſold in the Shops under the Name of *Spodium*.

Lemery.

It is deterſive, deſiccative, proper for Diſeaſes of the Eyes, for drying and cicatriſing of Wounds, and for the Piles. It is only uſed externally, after being ground to a very fine Powder.

[*Tutty* is the *Lapis Tutia*, *Wood. Att.* T. ii. P. 1. p. 50. *Cadmia Botrytis*, *Ald. Muſ. Met.* 16.

Cadmia Capnitis, Kentm. 53. There have been a Multitude of various Opinions about this Drug; *Garzias* thought it the Aſhes of a Tree; *Bontius*, a glutinous Earth; and *Douglaſs*, a glutinous clayey Earth of the *Eaſt-Indies* dried in Furnaces. Our Author has given a much juſter Account of it than any of theſe; but it is to obſerved, that the *Cadmia* of the Antients was different from that of the Moderns. It was the Recrement of the Copper Oar, blown off by Bellows while it was melting and ſticking to the Sides of the Furnace of different Figures and Colours, and from thence diſtinguiſhed into different Species. The fineſt Kind they eſteemed that which ſtuck to the very Edges of the Furnace, and was as light as Wood-aſhes. The next was that which hung down from the Arch of the Furnace, called Βοτρυώδης, from its reſembling Cluſters of a middle Weight between the foregoing and the following, and of two Colours, whitiſh and purpliſh, the laſt of which was moſt valued: The third Kind was what being too heavy to aſcend to the Top of the Furnace ſtuck to the Sides; from this two other Kinds were obtained, a bluiſh and a red. Theſe were uſed to deſtroy Cicatrices, and the former for Diſeaſes of the Eyes. The beſt *Cadmia* was found in the Furnaces of *Cyprus*. The Silver Furnaces were alſo obſerved to afford a *Cadmia*, but it was lighter, whiter, and much inferior to the Copper kind; and according to *Galen*, there was a kind of *Cadmia* made from a Species of *Pyrites*. But all theſe Kinds are now unknown in the Shops. And even the *Arabians* were ſo little careful about them, that they gave the ſame Names to other Subſtances; whence a great deal of Confuſion has riſen ſince, eſpecially as ſome of the later *Arabians* have endeavoured to apply to theſe other Subſtances what the Antients ſaid of the different Species of their true *Cadmia*; particularly *Avicenna* ſays of Litharge of Silver, all that *Dioſcorides* has ſaid of *Cadmia*.

The preſent *Cadmia Fornacum*, or *Tutty* of the Shops, is a Recrement of *Calaminaris* melted with Copper, and not of Copper alone, as was that of the Antients: It is, properly ſpeaking, a Sublimation of *Lapis Calaminaris*, from the melting Copper to the upper Part of the Furnace, where it concretes round Iron Rods, placed there into a ſolid Cruſt, which is afterwards beat off into Pieces, like the Bark of Trees: And this was, in all Probability, alſo the *Tutty* of the *Arabians*; for *Serapion* deſcribes a Kind of *Tutty*, produced in the Furnaces where Copper was turned into a yellow Metal.

Tutty is reckoned among the principal Ophthalmick Remedies, it deterges and dries without Acrimony, and is uſed with great Succeſs in Ulcers of the *Cornea tunica adnata*, and Eye-lids; and alſo in Itchings of the Eyes and inveterate Ophthalmias.

Spodium or Putty is not this, but a different Subſtance, mentioned in the Chapter of *Pompholyx*, but very ſeldom ſeen in the Shops.]

19. *Of* Chalcitis.

CHALCITIS, or native *Colcothar*, is a natural Vitriol made red by ſubterraneous Fires in the Entrails of the Earth, which is the Reaſon why *Chalcitis* is found in a Stone of a reddiſh Colour. I ſhall not endeavour to write what the Antients have ſaid touching the different Changes that happen to the *Chalcitis*, nor to explain what is *Miſy*, what *Melanteria*, and what *Sory*, for I cannot tell what theſe three laſt are, or where they may be found. *Matthiolus* upon *Dioſcorides*, p. 729. ſays, that *Miſy* is hard, and like Gold, and gliſters like a Star, and is found in *Cyprus*. That *Melanteria* is found of two Sorts; one growing like Salt at the Entrance of Copper Mines; the other congealed at the Top of the Mines. He ſays, that the beſt *Melanteria* is that which is ſmooth, clean, firm, and of the Colour of Sulphur, and that turns black as ſoon as a Drop of Water is put upon it. As for *Sory*, he ſays it is black, full of Holes, and aſtringent to the Taſte, of a very ill Smell, and that a great deal is found in *Ægypt*, *Libya*, *Spain*, and *Cyprus*. *Pliny*, on the other hand, ſays, that *Chalcitis*, *Miſy*, *Melanteria*, and *Sory*, are the ſame Thing; that the one changes to the other in Proceſs of Time, that is to ſay, *Chalcitis* becomes *Miſy*, *Miſy* turns to *Melanteria*, and *Melanteria* to *Sory*; which I could never find, though I have had a Lump of it above eighteen Years, in which I could never ſee any Alteration, as to its Nature or Colour, though I have been careful to obſerve it. It is true, there is ſome *Chalcitis* that has different Colours in the ſame Piece; but as I have found no Alteration in it by keeping all the Time I had it, I am apt to believe it was ſo naturally.

Chalcitis is to be choſen in pretty large Pieces, of a browniſh Red, of the Taſte of Vitriol, which being put into a little Water, diſſolves eaſily, and being broke, is of a Copper Colour, but ſomething ſhining.

The *Chalcitis*, or natural *Colcothar*, is brought from different Places, as from *Sweden* and *Germany*. It is a Drug very little uſed in Medicine, becauſe very rare; and if it were not an Ingredient in *Venice-Treacle*, there would be ſcarce any Demand for it. The Dearneſs and Scarcity of this

this Stone has given Occaſion to many Counterfeits, and to ſeek for *Succedaneums*, as the *Colcothar*, or Vitriol made red, the white Vitriol calcined, the *Lapis Calaminaris*, becauſe of its Colour, and ſeveral other Things; ſo that Perſons who want the true *Chalcitis*, muſt apply to honeſt People, and not ſtick at a Price.

The *Chalcitis* of *St. Chriſtophers* is very different from this, it is greeniſh, like Vitriol half calcined, but it begins to be ſold for the true.

Lemery. *Chalcitis* is a Vitriol naturally calcined by the ſubterranean Fires, and rendered into Pieces of Stone, pretty big, red, and ſometimes ſtreaked within with yellow Veins ſomething ſparkling. It is found in Copper Mines, and within ſide participates of that Metal. It is melted by Fire. It is brought ſometimes from *Germany* and *Sweden*, but is generally very ſcarce in *France*.

That is moſt preferable, that is in pretty large Pieces, of a browniſh red without, which being broke, is of a Copper Colour, ſomething ſhining, of the Taſte of Vitriol, and eaſily diſſolved in Water.

The *Chalcitis* is hot, dry, deterſive, and very aſtringent. It ſtops Bleeding at the Noſe. It is uſed internally and externally; and in the Compoſition of *Venice-Treacle*; but not being eaſily got, they commonly ſubſtitute an artificial *Colcothar*, which is a green Vitriol calcined to a Redneſs, in the Room of it. It is of thinner Parts than *Sory*, but thicker than *Miſy*. In a *Collyrium* it cleanſes, dries, and heals the Eyes. The ſame *Collyrium*, if weakened with Roſe-water, prevails againſt *St. Anthony's Fire*, and all Sorts of creeping Sores, whether of Skin or Fleſh. With Juice of Leeks it is ſaid to ſtop a Flux of Blood at the Noſtrils, as alſo in Wounds, and of the hemorrhoidal Veins. It is good againſt Vices in the Gums, and eating Ulcers of the Tonſils, the Powder of it being laid upon the Part affected. Burnt, and mixed with Honey, it helps callous and rough Eyebrows, Fiſtulas, Leproſy, and other cutaneous Diſeaſes.

They who diſtinguiſh *Miſy* from *Chalcitis*, ſay, it is a natural mineral Excrement almoſt like Gold, which gliſters when it is broken. It is commonly bred upon the *Chalcitis*, and is only the Recrement of that Mineral, being bred thereon, as Verdigriſe is upon Braſs. It is very aſtringent, burning, and of much thinner Parts than *Chalcitis*, but is of the ſame Virtue with it, as being bred from it, but in a different Degree. That which comes from *Ægypt* is accounted the beſt, and is more corroſive than *Chalcitis* or *Sory*; being calcined and burnt, or waſhed, it is good againſt malignant Ulcers or Fiſtulas. With Lime-water, in which a little *Sal Armoniack* is diſſolved, a *Collyrium* may be made by infuſing the Powder. That Water is likewiſe good to waſh malignant Sores, and running Ulcers.

The *Melanteria* of *Dioſcorides*, according to *Matthiolus*, is a mineral vitriolick Matter, of which there are two Kinds. One is found like a Salt upon the Entrance of Copper Mines, from whence they gather it. The ſecond is found at the Top of the ſame Mine, in a firm, ſmooth, clean Stone, of the Colour of Sulphur. *Dioſcorides* prefers this latter Sort to the firſt, and chiefly when it grows black upon being melted with a little Water. He ſays the *Melanteria* is found in *Cilicia*, and ſeveral other Countries: He attributes a cauſtick Virtue to it. This Drug is unknown to us; and many believe, with *Pliny*, that it is nothing elſe but the *Chalcitis*, which has taken ſeveral Shapes and Colours in the Mine. However it is, we ſubſtitute the natural *Chalcitis* in the ſtead of it.

Sory is a ſtony Mineral, vitriolick, groſs, impure, porous, or naturally pierced with many Holes, fattiſh, black, of an ill Smell, and a ſtyptick Taſte. It is found in the Mines of *Cyprus*, *Spain*, *Libya*, and *Ægypt*; and, as *Matthiolus* ſays, it is found in the Dukedom of *Brunſwick*. Many have thought it to have been a *Chalcitis* grown old, and that has lain long in the Mine; but there is more Probability that it was a Mixture of Vitriol and Bitumen calcined by ſubterranean Fires. There has been none of it found for many Ages, at leaſt it has been neglected, and we ſubſtitute the *Chalcitis*, or natural red Vitriol in the Room of it. It was drying, burning, and aſtringent, not much differing from *Miſy*, but of thicker and groſſer Parts, and therefore leſs piercing.

[The natural *Chalcitis* is the *Chalcitis*, *Worm.* 26. *Aldr. Muſ. Met.* 240. *Kentm.* 15. *Chalt. Foſſ.* 11. is a Foſſil Subſtance reſembling Copper, brittle, but not ſtony, and variegated with a Mixture of ſhining Veins, and in the Fire turns to a Red Lead or Blood Colour: it is acrid and aſtringent, is uſed in Hemorrhages, and is an Ingredient in the *Theriaca*: but as it is very ſcarce, the common *Colcothar* of Vitriol, or Vitriol calcined to a Redneſs, are uſed in the Place of it.

The *Miſy*, *Sory*, and *Melanteria* are Foſſil Subſtances, much reſembling *Chalcitis*, and each other, and are found chiefly in the Mines of *Cyprus*. *Galen* ſays, he found the *Chalcitis*, *Miſy*, and *Sory* in the Mines, lying in long *Strata* upon each other; the *Sory* at the Bottom, *Chalcitis* in the Middle, and *Miſy* at the Top. He alſo affirms, that *Chalcitis* certainly, in length of Time, changes

into *Miſy*; for that having kept a Piece of *Chalcitis*, which himſelf took out of the Mine, thirty Years, he found the outer Surface of it changed into *Miſy*, the Middle remaining unaltered; he alſo obſerved ſome ſmall Alteration in *Sory*, which made him conclude, that it is in like Manner changeable into *Chalcitis*. The firſt of theſe is the *Miſy*, *Worm.* 26. *Aldr. Muſ. Met.* 341. *Charlt. Foſſ.* 11. *Kentm.* 15. I tis a Foſſil yellow Subſtance, ſhining like Gold, and ſparkling when broken, growing from *Chalcitis* as Verdigriſe does from Copper, and ſeeming to be nothing more than an Efflorescence from it. It is eſcharotic and aſtringent.

The *Sory* is the *Sory*, *Worm.* 26. *Ald. Muſ. Met.* 341. *Charlt. Foſſ.* 11. *Kentm.* 15. It is a Foſſil Subſtance, firmer, harder, and more compact than *Chalcitis*, which emits Sparkles by Attrition: it is ſpungy, full of Holes, of a viſcid Texture, black Colour, aſtringent nauſeous Taſte, and of a very ſtrong Smell. The *Ruſma*, uſed by the *Turkiſh* Ladies as a Depilatory, ſeems to be this very Subſtance from *Bellonius's* Deſcription: It is a violent Emetick.

The *Melanteria*, is the *Melanteria*, *Worm.* 26. *Ald. Muſ. Met.* 341. *Charlt. Foſſ.* 11. *Atramentum nigrum ſeu Sutorium Græcis Melanteria*, *Kentm.* 14. It is of two Kinds; the firſt found like concreted Salt, in the Paſſages to Copper Mines; the other hanging down from the Top of the Mines. The beſt is reckoned that which is of a pure Sulphur Colour, ſmooth, clean, and even; and which turns black as ſoon as it touches Water. It has the ſame Virtues with the former, but is, like them, ſcarce ever to be ſeen in the Shops.]

20. *Of* Roman Vitriol.

Pomet. *ROMAN Vitriol* is a Salt partaking of a mineral Quality, and compoſed of a ſulphureous Earth: its Origin may be aſcribed to a Sort of Marcaſite, found in Iron and Copper Mines, to which the Antients have given the Name of *Pyrites:* It is drawn from this by the Means of Water. This Stone is found under our Clay-pits at *Paſſy*, within a League of *Paris*, and ſeveral Operations have been performed upon it; and, as I have been aſſured, it was with this that a certain Abbot made his univerſal Medicine. The *Pyrites*, from whence they extract the *Roman Vitriol*, is found in ſeveral Parts of *Italy*. To reduce this Marcaſite to Vitriol, they expoſe it for ſome Time to the Weather, that ſo the Air may penetrate into it, and that it may calcine and turn into a Calx of a greeniſh Colour. When the *Pyrites* is fit for working, they throw it into Water, and afterwards, by the Help of Fire and wooden Tubs, reduce it to Cryſtals, ſuch as we receive from *Italy*. In a word, all the Vitriols are made as they make Allum in *England*, or Salt-petre with us. All the Difference that there is between the ſeveral Vitriols proceeds from the different Places where the Mineral is found; and as it participates of the Copper or the Iron: The Vitriols which have moſt of the Copper are thoſe of *Cyprus* or *Germany:* They which have moſt Iron are the *Roman Vitriol*, and that from *Piſa* and *England*. When the firſt are rubbed upon the Blade of a Knife, wet with Spittle, they make it look red; on the contrary, the *Roman Vitriol*, and that of *Piſa* and *England*, do not change the Colour of the Knife-blade: And this has given ſome People an Opportunity of counterfeiting *Roman Vitriol* by *Engliſh*, which they do by waſhing it a little, and expoſing it to the Air for ſome Days, till from a green it turns to a greyiſh Colour; but this is eaſy to be found out, becauſe the true *Roman Vitriol* is in thick long Pieces, of a Graſs Green, very difficult to melt, and being broke, is tranſparent as Glaſs; from whence (the *Latin* Word for Glaſs being *Vitrum*) ſome pretend that it takes its Name: Others will have it, that the Name of *Vitriol* is myſterious, and that every Letter of it is the initial Letter of a Word; ſo that it is as much as to ſay, *Viſitando Interiora Terræ, Rectificando Invenies Occultum Lapidem, Veram Medicinam.*

The true *Roman Vitriol* is much ſought for at preſent, both becauſe of its Scarcity, as well as becauſe it is the moſt proper for the making a white Powder, which they call the *Sympathetick Powder*, which is only *Roman Vitriol* expoſed to the Air and the great Heat during the Dog-days for a conſiderable Time. When it becomes extremely white by the Calcination which the Sun has given it, it is made uſe of for Wounds, and to ſtop Blood. Some mix Gum *Tragacanth* with it. They bring us likewiſe from *Italy* another *Vitriol*, which comes near the Colour of the *Roman*, only it is greener, and in leſſer Pieces, and is what we call *Vitriol*, or *Copperas* of *Piſa*, and is made uſe of by the Dyers.

The third *Vitriol* is of a martial Nature, and as it is more common, is alſo cheaper; this is the *Engliſh Vitriol*, or common Copperas: It is much uſed by Dyers, Hatters, and others, who have occaſion for a black Colour; and they ſay that that which makes the Copperas dye black, is becauſe the Stone it is prepared from participates of the Iron; others will have it, that it is becauſe they who make it throw old Iron into the Liquor.

The neceſſary Qualities in right *Engliſh* Copperas is, that it be dry, of a clear tranſparent Green, with as few ſmall and whitiſh Pieces as poſſible.

Of

Of the Cyprian *or* Hungarian Vitriol.

This *Vitriol* has its Name from the Places from whence it is brought; it is of a Sky-blue, and in large Cryſtals. Notwithſtanding all the Pains I have taken to diſcover what the *Vitriol* of *Cyprus*, which we ſell, might be, I have not been able to learn it. The Sentiments of Authors differ exceedingly about it, ſome ſay it is a Cryſtallization made of a blue Water which is found in Copper Mines. A Perſon of Worth and Honeſty has affirmed to me, that the *Vitriol* of *Cyprus* was made of Roſe Copper diſſolved in the Spirit of *Vitriol*, and afterwards cryſtallized. Another has told me, that it was made of *German* Copperas; but not knowing which Part to take amongſt the three, I ſhall only ſay, that it partakes of Copper, and that two Sorts of it are brought to us from *Cyprus*; one in large Pieces, which we call the *Company's Vitriol*, becauſe the Merchants trading to the *Indies* bring it to us; the other cut into Bits on Purpoſe, with Points like Diamonds, to make it look more beautiful, and promote the Sale.

The *Vitriol* of *Cyprus* or *Hungary* is to be choſen of a fine ſky-coloured Blue, eſpecially when broken; for being a Commodity eaſily to be penetrated by the Air, it will come to be of a whitiſh grey on the Outſide, which does not at all diminiſh its Goodneſs, but renders it not ſo ſaleable to the Eye; and a Sign that it is the Superficies only that is damaged, is this, that by putting it to the Tongue, upon the Approach of the leaſt Moiſture, it will come to its Colour. Some Perſons have aſſured me, that ſo piercing a Spirit is drawn from the *Vitriol* of *Cyprus*, that it will break any Glaſs Veſſel of whatſoever Thickneſs; and yet though ſo piercing, being mixed with an equal Quantity of Water, it is a ſovereign Remedy for conſolidating all green Wounds, and ſtopping of Blood; which is probable enough, becauſe we have no Drug more aſtringent, or that ſtops Blood better than the *Vitriol* of *Cyprus*. This *Vitriol* is much uſed by ſeveral Artiſts. Some Perſons carry it about them for Blotches in their Face.

This, as well as the *Roman*, is uſed for the ſympathetick Powder.

Of German Vitriol, *or* Copperas.

The *German Copperas* is a *Vitriol* of a bluiſh Green, clear and tranſparent, which is made and cryſtallized at *Goſſelar* in *Saxony*, whence it is that this *Vitriol* is called *Goſſelar*, or *Saxon Vitriol*. The largeſt Pieces, cleareſt, and moſt tranſparent, are to be choſen, and the drieſt that can be.

The *German Vitriol* is of much uſe in Medicine, as being that from whence the Chymiſts draw moſt of their Preparations, as ſhall be ſhewn hereafter. It is alſo this Kind which is uſed in making *Aqua fortis*. It is likewiſe uſed by the Dyers. This may be uſed for ſtopping Blood in Caſe of Neceſſity, inſtead of the *Vitriol* of *Cyprus*, but it has not ſo much Efficacy.

Of White Vitriol.

The *White Vitriol* which we fetch from *Germany*, is the Copperas of *Goſſelar*, beforementioned, calcined to Whiteneſs, and afterwards put into Water and filtred, and reduced to Salt; and when it begins to coaggulate, the *Germans* make it into Lumps of forty or fifty Pound Weight, of the Shape we ſee them in. It is therefore an Abuſe put upon us by a modern Author, who would make us believe that the white Copperas is found near Fountains, and is the moſt purified of all from any metallick Subſtance. This Copperas ought to be pretty hard, white, and of the neareſt Reſemblance to fine white Sugar that can be. Care muſt be taken to keep it from the Air, for when that gets to it, it becomes yellow and unſaleable.

This Copperas is of ſome Uſe in Phyſick: People put it into Roſe or Plantain Water, with Orice and Succotrine Aloes, to cure Diſeaſes of the Eyes. Painters uſe it, when calcined, to put in their Colours that they may dry; but Farriers uſe the greateſt Quantities of it.

By Help of the Spirit of Vitriol they draw Cryſtals from this white Copperas, which are what we call *Gilla Vitrioli*, or emetick Vitriol, becauſe being taken from twelve Grains to a Drachm in Broth, or other Liquor, it gives an eaſy Vomit. An aperitive Mineral Water may be made by diſſolving ten Grains of this *Gilla Vitrioli* in ten Pints of River Water.

Of the Spirit, Salt, *and* Oil *of* Vitriol.

They draw from the *German* or *Engliſh* Vitriol, calcined to a Whiteneſs, by means of Fire and a Retort, a Phlegm, a Spirit, and an Oil; but becauſe the Operation is long and troubleſome, I ſhould not adviſe any one to concern themſelves with it: Beſides, the Spirit and Oil of Vitriol, which we Apothecaries and Chymiſts in *France* make, is not near ſo good, nor can be afforded ſo cheap as thoſe brought from *England* and *Holland*. This muſt be taken Notice of, that what we call Oil of Vitriol, is only a Spirit well rectified from its Phlegm, and not an Oil; for Oils are fat Subſtances, and will ſwim on Water, but the Oil of Vitriol is not ſuch, but eaſily intermixes with watry Liquors.

That which is called *Spirit* of *Vitriol* is the Liquor which comes immediately after the Phlegm, which

which, if right, ought to be as clear as Water, of a Taſte ſomething ſharp, and being put upon white Paper, and held to the Fire, become black. They uſe this Spirit of Vitriol very commonly in Phyſick for Cooling, and upon other Occaſions. The Spirit of Vitriol, well cleaned of its Phlegm, is what we improperly call *Oil* of *Vitriol*; it ought to be of a dark Colour, of ſo piercing and cauſtick a Taſte, that it is impoſſible to endure it upon the Tongue. They are in the wrong who think that acid Spirits need not be ſtopt, becauſe they pretend that they do not evaporate, which is true; but this Spirit being throughly diveſted of its Phlegm, if you leave it in a Bottle unſtopped, the Air gets into it, increaſes its Bulk and Weight, and at laſt becomes as inſipid as Water.

The Oil of *Vitriol* is very corroſive, and therefore made uſe of to diſſolve Metals: It is taken inwardly for the ſame Diſtempers as the Spirit, but muſt be uſed in leſſer Quantities, becauſe it has greater Strength in it. Spirit of Vitriol ſhould be bought of ſuch Perſons as one can truſt, becauſe there are ſome who make Spirit of Vitriol, by mixing *Aqua fortis* with Water, which they are able to afford at a cheap Rate; and this Spirit of Vitriol, made with *Aqua fortis*, is called the *Philoſophick Spirit* of *Vitriol*, of which you muſt carefully beware.

As to the Water and Phlegm of Vitriol, which I mentioned before, it is of no Uſe becauſe it is inſipid, yet ſome People waſh their Eyes with it.

Monſieur *Lemery* ſays, that you muſt uſe *Engliſh* Vitriol, or Copperas, for the forementioned Operations, becauſe it is not of ſuch Acrimony as the *German:* However all they who work with Vitriol make uſe of the *German*; but I leave the Deciſion of this Point to them that have more Experience in it than I have. That which remains in the Retort, after Diſtillation, is a reddiſh Earth which the Chymiſts call the *Caput Mortuum* of Vitriol, artificial *Colcothar*, or rubified Vitriol. One may draw a Salt out of it by the Means of Water and Fire, which is what they call *Salt* of *Vitriol*, and is made uſe of as *Gilla Vitrioli*, only not to be taken in ſuch large Doſes. The *Salt* of *Vitriol* ought to be white, and faithfully prepared; it is a common Deceit to ſell the *Gilla Vitrioli*, or green Vitriol calcined to a Whiteneſs, for the *Salt* of *Vitriol*.

The *Colcothar* has ſome little Uſe in Medicine, foraſmuch as ſome People employ it inſtead of *Chalcitis*, becauſe it is cheaper, and has the ſame Qualities. Some Apothecaries put *Colcothar* into their *Diapalma*, as well to make it red, as to humour the Surgeons, who are pleaſed that the Publick do not know that it is nothing but *Diapalma*; and to diſguiſe it the better, they call the Plaiſter by the Name of *Diachalciteos*.

They make with the *Colcothar*, burnt Alum, Sugar-candy, Urine, and Roſe-water, a very aſtringent Water, and proper for ſtopping of Blood, as Monſieur *Lemery* has obſerved, to whom the Reader may have Recourſe. There is alſo another ſtyptick Water of Monſieur *Faveur*, deſcribed by Monſieur *Charas*.

It is to be obſerved, that the *Colcothar* is improperly called *Calcanthum*, becauſe the Word *Calcanthum* ſignifies nothing elſe but Vitriol.

Vitriol is a mineral Salt drawn, as Saltpetre, by Lotion, by Filtration, by Evaporation and Cryſtallization, from a Sort of Marcaſite, called *Pyrites* or Fire-Stone, of which I ſhall ſpeak in its Place. It is found in the Mines in ſeveral Parts of *Europe*, as in *Italy* and *Germany:* There are ſome Sorts alſo found about *Paris*. *Lemery.*

This Foſſil or Mineral, conſiſts of an acid Salt, Earth, Iron, and Copper. The diſtinguiſhing Mark of Vitriol conſiſts in the black Colour, which it communicates to an Infuſion of Galls. That it is an acid Salt appears plainly, not only by its being chymically analized (for a great many cavil, that an acid Spirit may be produced by the Violence and Force of the Fire) but alſo from the bright red Colour that a Solution of Vitriol imparts to blue Paper. The Earth of Vitriol precipitates or falls to the Bottom of the Crucible, when the Solution of fixed Nitre is poured upon a Solution of Vitriol. As to Iron and Copper, it is not to be doubted that they are contained in Vitriol; for by pouring the Spirit of Salt, or Vitriol, upon the Filings of Iron, an excellent Vitriol of *Mars* or Iron is made, and by placing Plates of Iron or Copper in a Crucible, with ſome common Brimſtone interſperſed, a Vitriol is produced by the Help of Fire: Wherefore it is very probable that the Vitriol of *Mars*, or Iron, and the Vitriol of *Venus*, or Copper, are bred in the Bowels of the Earth, from the acid Juices or Liquors corroding the Copper.

White Vitriol, vulgarly called *Eye Copperas*, is a Mineral Vitriolick Salt, found in the Earth near unto Fountains, and the moſt of all depurated from a metallick Mixture; or it is made by diſſolving the *Roman* or dark Green Vitriol in Water, and then boiling it till all the Water is evaporated, and the Vitriol turned into large white Lumps like Sugar, which being expoſed to the Air, turn outwardly of a reddiſh or yellowiſh Colour. It is the leaſt acrid of any of the Vitriols.

It is to be choſen in large white Lumps, pure and clean, reſembling Loaf Sugar, of a ſweet Taſte,

Taſte, aſtringent, accompanied with an Acrimony. It contains abundance of Phlegm and acid Salt, a little Sulphur like common Sulphur, and ſome Earth.

The white natural Vitriol needs no Manner of Preparation, being of great Uſe and Force in a Looſeneſs and Bloody Flux, and frequently uſed for that Purpoſe in Camps and Hoſpitals. The other White Vitriol is thus purified: Take White Vitriol, what Quantity you pleaſe, diſſove it in Phlegm of Vitriol, or in Rain Water; then filtrate, evaporate, and ſet it to cryſtallize. This is that which is called *Gilla Vitrioli*, and *Gilla Theophraſti*.

It heats, deſiccates, aſtringes, or conſtipates, yet excites Vomiting. It powerfully extricates tough Phlegm out of the Ventricle, by its emetick Force, yet may be given to Children. It kills Worms, and ſtrengthens the Stomach and Brain, and is good againſt Convulſions and Epilepſies; it cleanſes and ſtrengthens the Womb, and is uſed in Injections againſt a *Gonorrhœa*, and the Whites in Women, a Drachm thereof being mixed with a Pint of Spring Water, and ſo uſed with a Syringe. Inwardly, as a Vomit, it is an excellent Remedy againſt Fevers; Doſe from twelve Grains to a Grachm in Broth, or other Liquor. It cleanſes the Stomach from all Impurities, eaſes the Headach, ſtops Fluxes, and is good againſt *Quotidian* and *Tertian* Agues.

There are two Things obſervable in Regard to this *Gilla Vitrioli*, *Firſt*, That in making it all the Liquor may be evaporated away without any Cryſtallization, ſo the *Gilla* will remain at the Bottom in a white Powder. Next, that after taking this Vomit, the Sick ſometimes voids by Stool a black Matter, like Ink; becauſe it often happens that ſome Part of the *Gilla* deſcending into the Guts, meets with a ſtyptick Matter, almoſt of the ſame Nature as Galls, which cauſes that Blackneſs.

The ſympathetick Powder is white Vitriol opened and prepared; it ought to be placed upon a Stone, ſo as to receive the Beams of the Sun reflexively, from a large Burning-glaſs, by which it will be ſooner done than by any Furnace whatſoever, and the calcined Powder is to be kept in a Glaſs cloſe ſtopt for Uſe. It is uſed in the magnetick Cure of Wounds. Diſſolved in Water, and uſed outwardly, it dries, binds, and heats much, and has the Virtue of the *Gilla*.

The *Aqua Styptica Compoſita*, or the Compound Styptick Water, is made of this Vitriol, and other Ingredients in the following Manner. Take purified white Vitriol, Roch Alum, of each an Ounce; *Saccharum Saturni*, half an Ounce; Spring Water, two Quarts; mix and diſſolve over a gentle Heat, digeſt cloſe ſtopt ten Days; decant the clear, filtrate, and keep it for Uſe. This is an eaſy Preparation, and of few and ſimple Ingredients, but of no mean Uſe. It is a good Injection (Univerſals being firſt premiſed) againſt the Whites in Women, and the *Gonorrhœa* in Men, though of never ſo long ſtanding, and poſſibly may do more in two, three, or four Days Time, being injected, than all other Medicines could do in as many Years: It ſtops Bleeding in any Part, heals Ulcers, and infallibly cures all Sorts of Tetters, Ringworms, Scabs, Scurf, Morphew, and inveterate *Herpes* in any Part of the Body, if daily waſhed therewith, two or three Times a Day, for half an Hour at a Time, and as hot as can be endured; injected as a Clyſter, it kills the Worms called *Aſcarides*.

There are ſeveral Sorts of Green Vitriol, as the *German* or *Hungarian* Vitriol, the *Engliſh* Vitriol, and the *Roman* Vitriol.

As for the Green *Hungarian* Vitriol, the Native is found in Mines like Copper. The Factitious is made of the Marcaſite, called *Pyrites* or the Fire-Stone, with or without Additions of Copper, and is brought to us from *Dantzick*, out of *Germany*, *Hungary*, *&c.* The beſt is the greeniſh, and of that, that which participates more of Copper than of Iron, which rubbed on a Knife, colours it red; that which is ſubceruleous, pale, aquoſe, and moiſtens the Hands, is not ſo good.

The Factitious is that which is made either of Water coming from vitriolick Springs, evaporated and cryſtallized, or elſe made from vitriolick Marcaſites, the *Pyrites*, or Fire-Stone (with Additions of Copper) which is found in Grounds abounding with metallick Seeds, and inclined naturally to the Generation of Sulphur. It is known by burning, for it yields a ſulphureous Fume, not unlike Brimſtone. This powdered and expoſed to the Air, yields on its Superficies a little white and ſharp Salt melting in the Mouth, at firſt ſweetiſh, then ending in a vitriolick Harſhneſs. From this Powder Vitriol is thus extracted; it is diſſolved in Rain Water, by boiling in a ſlow Heat, then filtrated, evaporated, and cryſtallized; ſo you have an excellent greeniſh Vitriol.

Out of any of theſe three Kinds of greeniſh Vitriols, all the great and famed Medicines are made. It goes ſometimes by the Name of *Dantzick* Vitriol; it may be purified after the ſame Manner as the white, and the *Gilla* of it has all the Virtues as the other, but is much ſtronger, and ought to be given with Caution and Diſcretion, and only to ſtrong Perſons; and if given to the Sick, they ought to be provoked to vomit, leſt it ſhould ulcerate the Tunicles of the Stomach and Bowels.

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The ſympathetick Powder is much better to be made with this than with white Vitriol, as being much more powerful to all the ſame Intentions of curing Wounds, and the like: And as to the Compound Styptick Water of white Vitriol, the ſame may be done with the *Hungarian*, only the Proportion of it muſt be ſomething leſs. It is ſuperior in Virtue, and may do Wonders, if in a wiſe Man's Hand; but for vulgar Uſe the former is better, becauſe it may be truſted with Perſons that are leſs ſkilful, and there will be no Danger of their doing Miſchief with it.

The Styptick Water of Monſieur *Faveur* is made after this Manner: Take of Vitriol twenty-five Pounds, diſſolve it in fair Water, ſtrain it through a coarſe Cloth, boil it in a Copper Veſſel for a Quarter of an Hour; remove it from the Fire, and put to it immediately half a Pound of Spirit of Vinegar to cauſe the earthy Parts to ſettle; let it ſtand twelve or fourteen Hours, that the *Terra* may precipitate, then decant the clear Liquor. This *Terra* or Precipitate waſh well, dulcify, and dry over hot Embers; of which take eight Ounces, put it into a Glaſs Retort, upon which pour Spirit of Vitriol, well rectified from its Phlegm, eight Ounces; diſtil with a gradual Fire, ſoft at firſt, and at length very violent, continuing it ſo till nothing more will come. Take the *Caput Mortuum*, reduce it to Powder, and with Alcohol, or tartarized Spirit of Wine, enough to cover it five Inches over, in a Matraſs well luted. Set it in a ſoft Heat to digeſt for twenty-four Hours, till the Spirit of Wine becomes very red; filtre it hot, and draw off the Spirit in a Glaſs Alembick, ſo you have at the Bottom a whitiſh Powder: Take of this Powder one Ounce; Rain Water four Ounces, digeſt in the Sun for ſome Days, then filtre and keep it for Uſe: But the ſame Perſon, in making the ſame Water, did ſometimes put double the above limited Quantity of Spirit of Vitriol, and then only drying the *Caput Mortuum* in a Crucible till it became yellowiſh, he to two Ounces of it put only three Ounces of Rain Water; digeſted them together for ſome Hours, then filtrated, and kept the Liquor cloſe ſtopt for Uſe, as an extraordinary Remedy againſt all Hemorrhages, or violent Fluxes of Blood.

To conclude, the *German* or *Dantzick* Vitriol is in green Cryſtals, inclining to a blue, of an aſtringent acrid Taſte; it participates of Copper, and is that which is uſed to make *Aqua fortis*.

The *Engliſh* Copperas is in Cryſtals of a dark green Colour, of a ſweet aſtringent Taſte, coming near to that of white Vitriol: It participates of Iron, and does not make it change its Colour. It is more than half of it Phlegm, a great deal of acrid Salt, Sulphur, and Earth. One may draw from this Vitriol a very good Spirit of Vitriol by Diſtillation, as I have ſhewn in my Book of Chymiſtry.

This Vitriol is made in *England*, upon the River of *Thames*, from vaſt Quantities of the Marcaſite *Pyrites*, or Fire-Stone, with the Addition of old Iron. Of this Copperas, with Galls, or any other aſtringent Vegetables, you may make Ink, and the Black for Dyers; yet ſome think that the Vitriol of Copper is better, becauſe that Experience teaches the Refiners that *Aqua fortis* made with Copperas, or Vitriol of Iron, will carry its Foulneſs through all their mediate Solutions.

Dark Green, or *Roman* Vitriol, vulgarly called *Common Green Copperas*, is prepared about *Rome* in *Campania*, being extracted out of Clots or Lumps, of an Aſh-colour inclining to black, like Potters Clay; which being expoſed to the Air, gradually heat and ferment, and being diſſolved ſome Days after in fair Water, they yield this Sort of Vitriol, but from the freſh Clots no Vitriol can be obtained. The *Roman* Vitriol is alſo prepared in ſome Parts of the Kingdom of *Naples*; it is of a paler Green than the *German Vitriol*, but almoſt of the ſame ſtyptick Taſte.

The blue Vitriol, or celeſtial Stone, is called *Cyprian*, or *Hungarian Vitriol*, becauſe it is brought to us from thoſe Countries. It is in Cryſtals of a very fine ſky-coloured Blue. It is not certainly known after what Manner it is made; ſome think it is extracted by the Evaporation and Cryſtallization of the blue Water that is found in the Copper Mines: Others ſay it is an artificial Operation, performed by a Diſſolution of Copper, in a weak Spirit of Vitriol, evaporated and cryſtallized. However it be, it participates much of the Copper, which gives it the blue Colour. It is acrid and ſomething Cauſtick; it comes in great and leſſer Pieces; the little ones are pointed like Diamonds. It contains much acrid Salt, or a corroſive Acid of Sulphur, but leſs Phlegm and Earth than other Vitriols.

The artificial Vitriol of *Venus* is made by taking little thin Pieces of Braſs, about the Bigneſs of a Shilling; firſt put a Layer of Sulphur, then a Layer of Pieces, filling a Pot full, *Stratum ſuper Stratum*, and calcine in a Furnace for two or three Hours; or calcine firſt the Copper by itſelf, and then beating the *Calx* to Powder, calcine it again, having firſt mixed with every Pound of *Calx* ſix Ounces of Sulphur, ſtirring it continually as it burns, that it may not ſtick to the Pan, and become black. Powder the *Calx* again, and calcine and repeat it three Times, till the *Calx* becomes very red. Take of this red *Calx* in Powder

one Pound; fair Water ſix Pounds; boil them together for about four Hours; let it cool and ſettle; decant the clear ſapphirine Liquor, and filtrate it after it has ſtood about two Days. The remaining Copper calcine, as before, with Sulphur three Ounces; and with Water in like Manner draw the Tincture. This Proceſs of calcining, boiling, ſettling, and filtrating is to be done ſix or ſeven Times, till with the Water you have extracted the whole ſapphirine, azure, or blue Tincture out of the Copper. Theſe blue filtrated Liquors put together, in a large earthen Bell, in a Sand Heat, not violent; evaporate the Water till a Pellicle ariſe, which being then put into a cold and moiſt Place for a Night, will ſhoot into Cryſtals like great Gems. *Glauber* extracts the Tincture from calcined Copper, with Spirit of *Sal Armoniack*, by frequent Ignition and Extinction, and in an Hour's Space extracts a blue Colour; which being ſet to cryſtallize in a cold Place, ſhoots into moſt elegant blue Vitriol. *Beguinus* does it with Spirit of Vinegar; but then the Vitriol will be of an obſcure green Colour.

The native blue Stone is good againſt Diſeaſes of the Eyes, taking away Films, Clouds, Pearls, *&c.* Rheums, Redneſs, Inflammation, and Blood-ſhot, if you take the Stone and put it into a little Spring or Well Water for about two Minutes Time, and then take the Water with a Linen Rag to waſh the Eyes, and drop two or three Drops into them at Bed-time. It cureth any running Sore, or Ulcer, or inveterate *Fiſtula*, Tetters, Ringworms, Scurf, *&c.* but for theſe latter Diſeaſes the Stone ought to lie in Water for a Quarter of an Hour. It alſo helps the Canker in the Mouth, by rubbing the Place with the Stone, and waſhing the Mouth with the Water.

The factitious blue Stone is given from two or three Grains, to twelve or fifteen, in proper Liquors, againſt Diſeaſes of the Head, Stomach, and Parts of Generation. It is often uſed in Injections in proper Vehicles, one Drachm to one Pound of Liquor, for all Sores, Ulcers, Scabs, Itch, Tetters, or any other cutaneous Diſeaſe. Inwardly it kills the Worms. It may be given in a ſmall Doſe againſt Diſeaſes of the Stomach and Brain. It ſtrengthens the Brain againſt a growing Epilepſy. It is alſo a Specifick to cleanſe the Womb; and it is held as a great Secret, to diſſolve a little of it in Water, againſt the burning and intemperate Heat of the ſpermatick Veſſels, and ſo to uſe it for Injections: For as this Vitriol poſſeſſes a large Portion of the Sulphur of *Venus*, which is able to appeaſe the Irritation of thoſe Parts, ſo alſo it produces rare and eminent Effects, by virtue of its deterſive and refrigerative Salt.

The red Vitriol, called *Calcanthum*, is a Vitriol that has been naturally calcined in the Mines by ſubterraneous Fire, or artificially by ordinary Fire. That which is found naturally in the Mine, is called *Chalcitis*, becauſe it is taken from Copper Mines. It is a browniſh red Stone, which is brought to us from *Sweden* and *Germany*. It is rare, and we have ſcarce enough of it to uſe in our *Venice Treacle*, of which it is one of the Ingredients.

That is beſt which is of a reddiſh brown, of the Taſte of Vitriol, and eaſily diſſolved in Water.

The *Colcothar*, calcined by the common Fire, is of a pleaſant Red. The beſt is that which remains in the Retorts after the Diſtillation of the Spirit and Oil of Vitriol. Both the one and the other *Colcothar* contain a great deal of metallick Earth.

Vitriol is chymically analized after the following Manner: Fill a Glaſs Matraſs, or Cucurbit, up to the middle with Vitriol powdered; then clapping on the Head, fitting the Receiver, and luting the Joints, diſtil it with a Sand Heat, that the *Ros*, or Phlegm of the Vitriol, being of a ſtrong ſharp Taſte, may be drawn off; then take off what remains in the Matraſs, bruiſe or powder it, and throw into a Retort, increaſing the Fire gradually three or four Days, and you will obtain a Spirit and an Oil: And, laſtly, from the *Caput Mortuum* of the Vitriol diſſolved, an Earth and Salt is obtained.

The *Ros* or Phlegm of Vitriol is preſcribed by the Chymiſts from one Drachm to two, and is mightily commended by them for its Virtues, being diuretick, vulnerary, anodyne, and good to ſtrengthen the Bowels.

The Spirit of Vitriol provokes Urine, excites an Appetite, and allays the burning Heat of Fevers, being given in a Cup full of cold Water, to a grateful Sharpneſs. This Spirit may be ſweetened, digeſting it with the rectified Spirit of Wine; and then it may be uſed in Diſeaſes of the Gums, and cutaneous Diſtempers.

The Salt of Vitriol is endued with an emetick Faculty. It may be given from half a Drachm to two Drachms.

The *Colcothar*, or red Earth, out of which the Salt was extracted, is effectually uſed in a Looſeneſs, Bloody Flux, Hemorrhages, and Wounds.

The ſpiritous Parts of Vitriol may be eaſily again recovered, if you expoſe the *Caput Mortuum* for ſome Time to the open Air, keeping it from Rain; ſo that by Diſtillation you may obtain another Spirit: But this Spirit is a great deal ſweeter and weaker than the common.

Paracelſus corrects the Spirit of Vitriol by

pouring it upon the *Caput Mortuum*, and then diſtilling it nine Times over, every Time pouring on more freſh Spirit; and taking it out of the Alembick, he put it into a Retort, and diſtils it over again with as much Spirit of Wine as is ſufficient to make it into a Paſte. This he highly commends in an Epilepſy, or Falling Sickneſs.

[*Vitriols* are either natural or fictitious; the former are found in Cryſtals, or *Siriæ*, ſticking to the Roofs and Sides of Mines; the latter are obtained by various Arts from Waters, Earths, Stones, vitriolick Veins of mineral Ores, and particularly from the *Pyrites:* the moſt uſual Ways of obtaining them are by Fermentation, Coction, and Cryſtallization. In *Galen's* Time, blue *Vitriol* was made in *Cyprus* by the Sun's exhaling vitriolick Waters; and the ſame Kind is now made in *Hungary*, by boiling and evaporating a Water of that kind; and the green *Vitriol* of *Germany* is, at this Time, made by a Method not much different. It is alſo made in ſome Places by Ablutions of an aſh-coloured Earth, ſpotted with Specks of a Ruſt of Iron Colour; and others of a Verdigriſe Colour, with a ſtrong ſulphureous Smell, an unpleaſant acerb Taſte. This *Vitriol* is therefore compoſed of a Mixture of Iron and Copper, and accordingly its Colour is between blue and green. The other common *Vitriols* of the Shops are, 1. The blue *Vitriol*, the *Vitriolum Cæruleum*, *Charlt. Foſſ.* 11. *Vitriolum Cyprinum Cæruleum*, *Worm.* 25. *Chalcanthum Cyprinum*, *Ald. Muſ. Met.* 329. This is brought to us from *Cyprus* and the *Eaſt-Indies*, and is made from Copper, or Coppery Waters, by Solution and Cryſtallization.

2. The green *Vitriol*, or common Copperas, is the *Vitriolum Viride*, *Charlt. Foſſ.* 11. *Calcanthum Viride factitium*, *Atramentum Sutorium Officinarum*, *Schw.* 273. *Atramentum Viride durum ſolide coctum.* 13. This is made in *England*, principally at *Rotherhithe* and *Deptford*, from a ferrugineous Kind of Pyrites, common on the Eaſtern Shores of *Sheppey* Iſland, and in other Places, with a Mixture of ruſty Pieces of old Iron by Coction and Cryſtallization. The Copperas Stones are heavy, denſe, and of a darker or paler Colour on the Outſide; but their inner Surface is marked with Lines or Spangles of a Gold or Silver Colour. They are inſipid to the Taſte, and by lying long in the open Air, acquire an inteſtine Fermentation, and fall ſpontaneouſly to Pieces.

3. The *White Vitriol* of the Shops, is the *Vitriolum Candidum*, *Charlt. Foſſ.* 11. *Calcanthum Candidum*, *Ald. Muſ. Met.* 339. *Atramentum Album durum Foſſile*, *Kentm.* 13. It is an Error to think that this is a Preparation of any of the other *Vitriols*, for it is found in proper Mines like a downy Efflorescence, which is diſſolved in Water, is boiled to Evaporation, and formed into Cakes. It is alſo ſometimes found in the Mine in ſmall tranſparent Pieces like Cryſtal. This is uſed as an Emetick, and in Diſeaſes of the Eyes.]

Of the medicinal Stone of Crollius.

The Stone of *Crollius* is made of *Engliſh* Copperas, white Vitriol, Allum, white Pot-aſhes, or *Natrum* of *Ægypt*, common Salt, Salt of Tartar, Salt of Wormwood, Salt of Mugwort, Salt of Succory, Salt of Plantain, Salt of Arſmart, white Lead, Bole Armoniack, Myrrh, Frankincenſe, and Vinegar of Roſes. Of all theſe in proper Quantities, as they are ſet down in *Crollius*, *Pag.* 442. by the means of Fire, is made a red Stone, endued with very excellent Properties, which would be too long to be deſcribed in this Place: But as this Stone is of great Conſequence, both becauſe it coſts a great deal of Money, and becauſe few Perſons have the true Knowledge of it, the greateſt Part of the Apothecaries ſubſtitute in the Room of it the medicinal Stone deſcribed by Monſieur *Charas*, becauſe they can afford it cheaper than they who ſell the true Stone of *Crollius*; this latter being made of Drugs of a much lower Price, as ſhall be ſhewn hereafter. *Pomet.*

Of the other medicinal Stone.

Monſieur *Charas*, in the Page 1041 of his *Pharmacopœia*, deſcribes a medicinal Stone compoſed of the Vitriol of *Cyprus*, Salt of Nitre, white Lead, Allum, Bole Armoniack, Sandiver, *Sal Armoniack*, and common Vinegar; ſo that one may ſee by theſe two Deſcriptions, that there is a great deal of Difference betwixt this Stone and that of *Crollius:* And that more of this is likely to be ſold for its Cheapneſs than of the other. *Pomet.*

Of the Lapis Mirabilis.

The *Lapis Mirabilis* is ſo called becauſe of its great Properties; above all for the Cure of Webs, and other Diſeaſes that happen to the Eyes of Horſes. *Pomet.*

This Stone is made by putting into an earthern Pot white Copperas, Alum, Bole-Armoniack, Litharge, and common Water, as Monſieur *Solleyſel* has remarked in his Book, *Pag.* 86. to which they that have Occaſion may have recourſe, as well to know the Doſe, as thoſe excellent Qualities by which it obtained ſuch a Name.

Theſe, and many other medicinal Stones, have been

been once in great Repute, but are now never preſcribed or made.

21. *Of the* Pyrites, *or* Fire-Stone.

THE *Pyrites*, or *Fire-Stone*, is a Sort of Marcaſite, of which they make their Copperas's or Vitriols. This Marcaſite is weighty, of a Mouſe Colour, full of little, yellow, ſhining Spots.

There is a great Quantity of this *Fire-Stone* in *France*, eſpecially at *Paſſy* near *Paris*.

It is no Impropriety to call the Vitriols Copperas's, becauſe the Word Copperas is derived from *Cuprum*, Copper.

Pyrites is a Sort of Marcaſite, or *Lemery*. hard Stone, heavy, which ſends forth Sparks of Fire upon ſtriking it with Iron, of a grey Colour, interſperſed with little, yellow, ſhining Streaks: This Kind is found in the Copper Mines in *Italy*, from whence they draw the *Roman* Vitriol.

To get the Vitriol out of this Stone, it is neceſſary to expoſe it to the Air for ſeveral Months together, that ſo the Acid getting inſenſibly into the Pores, may rarefy its Parts, and render its Salt more diſſolvable. By Time it is converted in a Manner to a Calx, from whence they extract the Vitriol, by waſhing it ſeveral Times with Water, and making Evaporations and Cryſtallizations as are neceſſary, as they do in the making of Saltpetre.

The *Pyrites* is deterſive, aſtringent, deſiccative, digeſtive, reſolutive, applied outwardly.

[*Pyritæ*, or Marcaſites, are of various Kinds, found in almoſt all Mines and Pits, and partaking of various Metals, Salts, and Sulphurs; according to the Quantities of which that are contained in them they vary in Shape, Colour, Size, and Weight. It would be not only tedious, but improper to enter into a long Detail of them here, as none of them are now ever uſed in Medicine in their natural State.]

22. *Of* Lead Ore.

Pomet. LEAD is a livid, terreſtrial, heavy Metal, charged with Sulphur, naturally ſoft and malleable, very like Tin, but inferior in Goodneſs. The Chymiſts call it *Saturn*, becauſe of the Influences they ſuppoſe it receives from that Planet.

We have three Sorts of *Lead Ore* that differ one from the other, only according to the Digeſtion they have received in the Bowels of the Earth. The firſt, that is to ſay, that which has received the leaſt Heat, and by Conſequence is moſt weighty, is that which has the Name of common *Lead Ore*, and this is what is made into the Lumps called *Pigs*.

This *Lead Ore* is a weighty Mineral, eaſy to break to Powder, and difficult to melt: it is taken out of the Mine in Pieces of different Bigneſs; ſometimes clean and neat; ſometimes mixt with Stones, reſembling a certain Sort of Marble.

This *Lead Ore* being broken, parts into ſhining Flakes, of a white enclining to black, very like the Shoots of Antimony.

The *Engliſh* melt this Lead, and afterwards caſt it into Moulds of the Shape we ſee the *Pigs* in. The *Lead Ore* is of no other Uſe in *France* but for the Potters, who make uſe of it, having firſt reduced it to Powder, to varniſh the earthen Veſſels of a green Colour with it.

Although this Merchandize be of no great Conſequence, yet great Care muſt be taken concerning it; for if there ſhould chance to be any other Metal in it, as there is found to be too often, it will ſpoil all the Potters Ware, to the great Trouble of him that ſold the Commodity; for this Reaſon you ſhould never ſell it to the Potters, without ſhewing it them Piece by Piece, and taking a Note under their Hand, that they are ſatisfied, to avoid further Trouble.

This *Lead Ore*, to have the requiſite Qualities, ought to be in large Pieces, heavy, with fine ſhining Scales, fat, that is to ſay, ſoft in handling, in a word, the moſt approaching to Biſmuth that it can poſſibly; reject that which is full of Stones and Dirt, or Gravel, as good for nothing, as well as that which is mixt with the *Lead Ore* of the ſecond Sort that I am going to ſpeak of.

The ſecond Sort is a *Lead Ore* leſs weighty and much harder than that beforementioned, and being broken is of a Mouſe Colour, of a coarſer Grain, ſmooth without, in ſome Meaſure reſembling the black Lead; which ſhews that it has not received Heat enough to be converted into the black *Lead Ore*. This is to be entirely rejected, as being of no Uſe: And ſome of this is often found in the firſt Sort, which is what cauſes ſo much Trouble to the Workmen, becauſe they can no more melt it by the Fire than they can do Marble, and it ſpoils all their Work. However, I muſt take notice, that ſome Alchymiſts enquire after it to draw their Lead out of it; for they pretend that the Lead drawn from it is more ductile and cloſe than common Lead is found to be. Others will have it, that there is ſome Silver in it, which I leave other Perſons to try; but as it is ſeldom uſed, I ſhould not adviſe any Perſon to furniſh himſelf with any Store of it.

The third Sort of *Lead Ore* is very much uſed, and is that we call *Black Lead*, or *Crayon*, becauſe

the moſt perfect. It ſerves to make Pencils to deſign withal. The Antients gave it the Name of *Plumbago*, and of Sea Lead, becauſe they thought it was taken from the Bottom of the Sea. Foreigners call it *Potelot*.

We have at *Paris* two Sorts of Black Lead, to wit, the fine and the common. The Fine, to be perfect, and in good Condition, ſhould not be heavy, of a black ſhining Silver Colour, not too hard nor too ſoft, eaſy to be cut, and, when divided, compact in the Inſide, and not gritty; of a fine cloſe Grain, in moderate Pieces, rather long, proper to cut; that which is fit to make the long Pencils is moſt eſteemed. *Lead* of theſe Qualities wants for no Price, the Merchant may have what he pleaſes, being much ſought for by Architects and other Perſons for drawing. This Sort of *Lead* comes generally from *England*; but as for the common, it is brought from *Holland*, and is of no great Uſe.

Monſieur *Morin*, Phyſician and Mineraliſt, has aſſured me that there were a great many *Lead* Mines in *France*, eſpecially in *Auvergne*, from whence we might have theſe three Sorts of *Lead*; and this may be relied upon, he being a Perſon that would not affirm an Untruth.

Of Lead *in Pigs.*

What they call *Lead* in Pigs, is the common *Lead Ore*, melted and purified from the Stone and other Impurities; which being well refined, by ſcumming, and throwing Suet or other Greaſe into it, is caſt into Moulds to make Pigs of different Sizes.

The *Lead* ſo refined, to have its due Requiſites, ſhould be ſoft, that is to ſay, eaſy to cut, pliant, and the moſt white and ſhining that can be. The different Uſes that are made of *Lead*, as well in ſeveral Trades, as in chymical Operations, is the Reaſon of ſo large a Conſumption as there is of it, as well in *Europe* as other Parts of the World.

Of Lead *in Powder.*

The firſt Preparation that is made of *Lead*, is the reducing it to Powder; not in the manner ſome Apothecaries uſe to reduce it, by raſping it, and beating it in a Mortar; nor as ſome Authors teach, by pouring it, when melted, into a round wooden Box chalked within, and ſo ſhaking it to Powder; for this is a troubleſome tedious Way, and the Quantity obtained by it is ſo little, that it is not worth while; but by melting *Lead* in an Earthen or Iron Veſſel, and when it is melted, by throwing into it the Duſt of beaten Charcoal, ſtirring it about: And in this Manner you may ſooner reduce into Powder a thouſand Weight of *Lead*, than one Ounce in a Mortar. To clean the *Lead*, that is, to ſeparate the Coal from it, you have nothing to do but to waſh it in Water, and dry it. *Lead* in Powder is very little uſed but by the Potters, who uſe it as *Lead Ore* for glazing their Earthern Ware.

Lead in Powder, eſpecially that which is in a Powder almoſt impalpable, has ſome Uſe in Medicine, becauſe it is an Ingredient in ſome Ointments, as the *Pompholyx* and others. They who refine *Lead*, and make Muſquet Bullets, or ſmall Shot, ſend us their Scum, which we ſell to the Potters, and call *Scum*, or *Lead Aſhes*.

Of Burnt Lead.

Burnt *Lead*, which the *Latins* call *Plumbum Uſtum*, is Plates of Pig Lead put into a Pot with Sulphur, and by the Fire the *Lead* is reduced to a brown Powder.

Burnt *Lead* has ſome Uſe in Medicine, becauſe it dries, and is an Ingredient in ſome Ointments and Plaiſters. As to its Choice, there is no more to be ſaid than that it be clean and well burnt. Some waſh it, to ſeparate the Impurities, or the Sulphur that remains in it.

Of Red Lead.

The *Red Lead*, which we call *Minium*, is *Lead Ore* pulverized, calcined, and reduced to ſuch a red Powder as we ſee it. It is wrong to think that the *Red Lead*, which is brought from *England*, is made of the Pig Lead; the Cheapneſs of it ſhews it to be otherwiſe, and that it is made from the *Lead Ore* as it comes from the Mine; beſides, Pig Lead will never come to that Redneſs as *Lead Ore*, whatever Fire you give to it.

Minium ought to be choſen for its high Colour, the fineſt Powder, and the cleaneſt that can be; and Care muſt be taken that it has not been waſhed, which will be known by its whitiſh Colour, and the little Lumps that are commonly in it. One may draw Mercury from *Minium* with Lime or File-Duſt, but it is in ſo ſmall Quantity, that it is ſcarce worth ſpeaking of.

The *Red Lead* is of ſome Uſe in Medicine, becauſe it is drying, and gives a Body to ſome Ointments and Plaiſters. Painters uſe it as well for painting red, as to mix with other Colours, to make them dry. Potters uſe a great deal to glaze their Ware of a reddiſh Colour, and there are ſeveral other Tradeſmen that have Occaſion for it.

Minium

Minium is the Lead Ore pulverized, and made red by a long Calcination over the Fire: this is brought from *England*, whereof that of the higheſt Colour ought to be choſen. It is aſtringent and deſiccative, being uſed in Plaiſters and Ointments. They likewiſe uſe it in Painting, and to varniſh Pots of a red Colour. It is called *Minium* from the Word *Mina*, becauſe it is made of the Lead as it comes from the Mine. *Lemery.*

Of Ceruſe.

Ceruſe, or Calx of Lead, is only Lead reduced to a Calx by means of Vinegar, the Vapour of which it is made to receive, and afterwards ground with Water, and put into Moulds, and ſo made up into little Cakes, which they dry, and put into blue Paper, as we find them. This *Ceruſe*, ſo prepared, is that which one may truly call the *Calx* of Lead, and not that which we ſell at preſent, that comes from *Holland* or *England*, it being almoſt all common Chalk, as I am going to relate. *Pomet.*

The true *Ceruſe* is that which we call the *Venetian*, becauſe the *Venetians* were the firſt that made it; but as it is extremely dear, we have little but the other Sort, which comes from *Holland*, becauſe the Painters eſteem it as much as the *Venetian*, but they are very much in the wrong; for the *Dutch Ceruſe* ground with Oil or Water, is a White of no long Duration, becauſe of the Chalk that is in it, which does not happen to the true *Venetian Ceruſe*, which is only the White Lead ground; ſo that if one had the true *Venetian Ceruſe*, there would be no need of grinding White Lead, and conſequently the Dangers would be avoided that Perſons meet with by grinding it, which often occaſions ſeveral Diſeaſes, and ſometimes Death itſelf.

If they who have Occaſion for *Ceruſe* to uſe in Medicine, or to make Salt of *Saturn*, would uſe the true *Venetian Ceruſe*, they would find their Operations more perfect: And inſtead of taking the *Ceruſe* in Cake, they might take the White Lead ground, and make it ſerve all their Purpoſes; but then it muſt be bought of honeſt Perſons, for none but they who ground it can anſwer for it: However, the true White Lead is extremely white, ſoft, and friable.

It is to be remarked, that the *Hollanders*, to make their *Ceruſe*, uſe only the Duſt that comes in bruiſing their White Lead; and as this Duſt could not ſupply ſo great a Quantity of *Ceruſe* as is uſed in *France*, and other Countries, and they could not afford it ſo cheap as it is always ſold, they mix a ſort of Marle or white Chalk with it. As for that which comes from *England*, it is ſtill worſe than that from *Holland*, becauſe they mix more of that Chalk with it, and it is not of ſo good a Colour. They who grind the White Lead to make *Ceruſe* of it, have Water-Mills, and afterwards they caſt it in little Moulds to form it into Cakes. To have its proper Qualities, it ſhould be extremely white, ſoft, friable, and dry, and the leaſt broken or mixed with little Duſt that can be, eſpecially if it be for Sale. You ſhould reject that which has not a good Body, but cracks in handling it, which proceeds from its being put up before it was well dried, or having been damaged by ſome wet coming to it.

Ceruſa, or *Ceruſe*, is a Lead that is penetrated, rarefied, and half diſſolved by the Vapour of Vinegar, and reduced into a very white Subſtance that is heavy and friable. When you would make this *Ceruſe*, the Lead is to be beat into fine thin Plates, which are ſuſpended or hung over earthen Pots, in which they have put Vinegar; and when the Pots are full of this Lead, they place it in a proper Heat, ſo that the Vinegar may, by its Fume or Vapour, have Power to penetrate and attenuate inſenſibly the Matter. After this has remained about a Month in the Heat, they open the Mouth of the Pot, and find all the Plates of Lead reduced into a white brittle Subſtance, which they call *White Lead*, and break theſe Plates into Pieces, which are uſed by the Painters. This White Lead is ground upon a Porphyry, with a little Water, and made into a Paſte or Cakes, which being dried, are fit for Tranſportation. The Workmen, in this Commodity, chuſe to put it up in blue Paper rather than any other, in order to make the Ceruſe look whiter; the beſt, the pureſt, and whiteſt, is brought from *Venice*. That which comes from *England* and *Holland*, is mixed with a kind of Chalk or Marle. *Lemery.*

Of Sandyx, *or* Red Ceruſe.

The *Sandyx* is nothing but *Ceruſe* reddened over a gentle Fire; but this *Sandyx* or *Red Ceruſe*, is little uſed, as it is only a kind of *Minium*. Some Moderns have writ that *Minium*, or Red Lead, was made of Ceruſe turned red upon the Fire: But there is nothing more falſe, and they only write by Hear-ſay, as is eaſy to prove: Foraſmuch as the Ceruſe comes from *Holland*, and the *Minium* or *Red Lead* from *England*; and beſides, the Ceruſe is always dearer than the *Minium*. *Pomet.*

Of

Of Maſticot.

Pomet. There are three Sorts of *Maſticot* that are brought from *Holland*, to wit, the White, the Yellow, and the Gold-coloured. Theſe different Colours ariſe from nothing but the different Degrees of the Fire they give the Powder of White Lead, of which they are made. Though the firſt Sort, which is that which has ſuſtained the leaſt Degree of Fire, is called White, yet it is not of a true white Colour, but of a whitiſh Yellow. The ſecond is yellow, and endures a ſtronger Degree: and the third of a Gold Colour, and has ſuſtained more Fire than the former; and they might make a fourth, by calcining it till becomes red, which makes it a true *Sandyx*. As to the Choice of them, they ought to be heavy, in an impalpable Powder, of a high Colour; they are only ſerviceable for the Painters; though *Lemery* ſays they are deſiccative and uſeful, mixed in Plaiſters or Ointments.

Of Natural *and* Artificial Litharge.

The *Natural Litharge*, which the Ancients called by the Name of *Molybdæna*, is a Kind of metallick or mineral Body, in Cruſts or Flakes, of the Thickneſs and Figure of White Lead, of a reddiſh Colour, eaſy to break, which is found in the Lead Mines. But as this *Litharge* is known to very few People, and is ſcarce to be met with, the *Artificial Litharge* only is uſed, which is improperly called Gold or Silver *Litharge*, becauſe the Ancients, and after them the Moderns, pretend that this *Litharge* was got from the Lead that had ſerved to purify or refine Gold and Silver; which is far from Truth, ſince all the *Litharge* we have now from *Poland*, *England*, or other Parts, as *Germany*, *Sweden*, and *Denmark*, is from the Lead made uſe of in refining Copper. Nevertheleſs, I do not deny but that thoſe who refine Gold and Silver make *Litharge*; but that is not what is ſold, becauſe the Refiners melt theirs into Lead again to ſerve anew, and to recover the Gold or Silver that was carried off with it. Our *Litharge*, therefore, ought not to be called *Litharge* of Gold or Silver, but plainly *Litharge*. They ought alſo to be undeceived, who believe, according to what ſome Moderns have writ, that *Litharge* is the Fume of Lead evaporated in the refining of Gold and Silver, and that it is like Soot, and ſticks to the Chimney: So alſo theſe ſhould be undeceived who believe that there is any Difference in the *Litharges* from their Colours, ſince thoſe are only occaſioned by the Force or Violence of the Fire. The *Dantzick Litharge* is to be preferred before the *Engliſh*; ſo likewiſe that which is ſmalleſt, moſt calcined, and of a lively Colour, that will eaſily diſſolve in any unctuous Liquor, in which it is uſually employed. This Commodity is much uſed in *France*, as well by Potters to glaze their Earthen Wares, Dyers, Painters, and others, as by Apothecaries, who make it the Baſis of moſt Part of their Plaiſters and Ointments.

Lithargyrus, ſive Lithargyrium, or *Litharge*, is a Lead tinged with the Impurities of Copper, and reduced into the Form of Droſs, or metallick Scum, by Calcination. This is made upon the Purification of Copper in *Poland*, *Sweden*, and *Denmark*. There are two Sorts, one called *Lythargyrium Auri, ſeu Chryſitis*, or *Litharge of Gold*; the other *Lythargyrium Argenti*, or *Litharge of Silver*. The Difference of Colours makes no Difference in the Virtue of them. There is likewiſe a *Litharge* made in Refining Gold or Silver by the Cupel, but it is but in ſmall Quantities, though like the other. All the Sorts are deſiccative, cooling, deterſive, and give a Conſiſtence to ſeveral Plaiſters, for they diſſolve in boiling with Oil and fatty Bodies. *Lemery.*

Of Salt, *or* Sugar *of* Lead.

The *Salt*, or *Sugar* of *Lead*, is made of White Lead, or the true *Venetian Ceruſe*, infuſed in diſtilled Vinegar, then filtrated, evaporated, and reduced into a light Maſs, that is white and cryſtallized, of a ſweet ſugary Taſte, yet nevertheleſs very diſagreeable. The greateſt Part of thoſe who make Salt of Lead, do it with *Dutch Ceruſe*, ſuch as we ſell, for which Reaſon they can ſell it nothing near ſo cheap as that made of *Venetian Ceruſe*; becauſe, as I ſaid before, the *Dutch* is mixed with Chalk, which will yield no Salt; ſome make it of Lead in Powder, *Minium*, or Litharge; none of which will afford ſo much Salt, and conſequently what is made that way cannot be ſold ſo cheap. Chuſe that which is of the Taſte aforeſaid, white, in little Shoots, or ſhining Cryſtals, and as light as may be, which when diſſolved in Plantain Water, will look like Whey; which Trial will anſwer two Purpoſes, the one to know the Goodneſs of the Salt of Lead, and the other that of the Plantain Water. Its Uſe is to cool, being given internally, or uſed externally. It is reckoned proper to ſtop the Flux of the Belly, and for ſore Throats, taken from three to four Grains in Plantain Water. Moſt of thoſe who make this Medicine make it heavy and greyiſh coloured, which proceeds from its not being *Pomet.*

ing well purified, or that it was not made with good Vinegar. For to make the Salt fine and light, it ought to be purified at leaſt four Times.

Of Balſam, *or* Oil *of* Lead.

Balſam, or *Oil* of *Lead*, is made of the Salt diſſolved in Oil of Turpentine; others put Salt of Lead in a Cellar to run into a Liquor. The firſt Balſam or Oil ought to be preferred to the other, in that it is proper to cleanſe and cicatrize Ulcers, and becauſe it is more capable of reſiſting Putrefaction. Others make Oil of Lead, and Burning Spirit of Lead, which they make by filling two Parts of a Retort with Salt of Lead, and by the Means of Fire, drawing thence a Spirit that burns like Brandy. But this Oil is not ſo ſtrong as that made with Oil of Turpentine, it ſerves to cleanſe the Eyes, eſpecially of Horſes and other Beaſts. Spirit of Lead is an excellent Remedy to reſiſt the Putrefaction of Humours.

Of Magiſtery *of* Lead.

Magiſtery of *Lead* is made of good Salt of Lead diſſolved in diſtilled Vinegar mixed with common Water; and by the Aſſiſtance of Oil of Tartar *per Deliquium*, precipitated into a white Powder, which after it is waſhed and dried, is very uſeful to cure Tetters and Ringworms, being mixed with Pomatum. The Vinegar and Water impregnated with the Salt before the Precipitation, if put into Water, make alſo a Sort of Virgins Milk, that is good to allay Inflammations, and cure Pimples in the Face.

Of Vinegar *of* Lead.

The *Vinegar* of *Lead* is a diſtilled Vinegar, wherein have been digeſted Ceruſe and other Preparations of Lead. It is made uſe of to cure Tetters, or being well incorporated with Oil of Roſes, to make a kind of Ointment, called *Butter of Lead*.

[*Lead* is got from different Ores, ſome mixed with a black, yellow, or aſh-coloured Earth, ſome full of Spangles, others of a red or white rocky Stone, in which the ſhining *Lead* is ſeen in ſquare Cheques, and in others of white, red, or green Spars. *Lead* Ore almoſt always contains ſome ſmall Quantity of Silver. There are *Lead* Mines in *Spain*, *Italy*, *Germany*, and *France*; but the richeſt in *Europe* are in *England*, where they ſeparate the Metal from the Ore by ſtratifying it with Charcoal, which, when lighted, melts the Metal, which immediately runs out. The ſpecifick Gravity of *Lead* is to that of Gold as three to five. Expoſed to the Focus of a Burning-glaſs, it melts, emits copious Fumes, and then turns to an aſh-coloured Calx, which ſoon turns yellow, then red, and ſoon afterwards melts into a Saffron-coloured, very fluid Liquor, which afterwards ſoon vaniſhes in Smoak; but if it be removed before it evaporates, it hardens into a red or yellowiſh Maſs like Orpiment, conſiſting of thin *Laminæ* pellucid like Talc. If this be put in the Focus again on a Piece of Charcoal, it recovers the Form of *Lead*, but if a bit of pure *Lead* be put on a Charcoal in the Focus, it melts, and is diſſipated in Smoak, no Glaſs remaining. *Lead* therefore is compoſed of a vitrifiable Earth of the talcous Kind, and a ſulphureous Principle, not much in Quantity, nor intimately mixed with it. It never contracts Ruſt, and is ſoluble in Acids or Oily Subſtances. In Calcination it gains in Weight, ſo that an hundred Pounds of *Lead* will yield an hundred and ten Pounds of *Minium*, but if that be again reduced to *Lead*, it will not weigh near an hundred.

Minium, *Maſticot*, and the Calx of *Lead*, are prepared by the ſame Operation, only differing in degree: To make them, melt *Lead* in an unglazed earthen Veſſel over a Charcoal Fire, it will after ſome time turn to a greyiſh Powder; this is the Calx of *Lead*; continue the Fire, and this Powder ſoon afterwards becomes yellow, then it is *Maſticot*; calcine this in a very ſtrong Fire, and it becomes red, and is then *Minium*, or red *Lead*. And this *Minium* is better and purer than that made at the Mines of the unpurified Ore.

The *Molybdæna*, or *Plumbago*, is a Subſtance of the Litharge Kind, ſticking to the Furnaces where Silver and Gold are purified by *Lead*; the Upper Part of it is like the common Litharge; the Lower, of an aſhy Subſtance; and the Middle, a Mixture of both the others. Its Virtues are the ſame with thoſe of the Litharge, but it is ſeldom kept in the Shops.

Black *Lead* is the *Nigrica Fabrilis*, *Charlt. Foſſ.* 2. *Maſſa Nigra ad Pnigitem referenda*, *Worm.* 5. It is rather an Earth than a Metal: It is found in Pieces of various Shape and Bigneſs. The beſt Kind of it is that found in *England*, about *Keſwick* in *Cumberland*: The *Weſt-Indian* alſo is fine. The *Spaniſh* is the next to this, but is more brittle: That of the *Eaſt-Indies* is the worſt of all. Beſide its great Uſe to Artificers, it is in Medicine drying, cooling, and repellant.

The Preparations of *Lead* are very great Medicines, but thoſe intended for internal Uſe muſt not be meddled with, but by thoſe who have Judgment.]

Of Natural *or* Mineral Zinck.

It is not with *Zinck* as with Tin-glaſs; foraſmuch as it is not only probable, but certain, that there is a *Natural Zinck* which the *Germans* call *Beauter*, and the *Flemings*, *Speauter*, we *Spelter*. The *Mineral Zinck*, is found in great Quantities in the Mines of *Goſſelar* in *Saxony*; it is at preſent very ſcarce in *France*, for which Reaſon it is much enquired for by ſome People. This Metal appears to be a kind of Lead Ore, except that it is harder, whiter, and more brilliant. Some People have aſſured me, that the *Zinck* we ſell in great ſquare Cakes is *Mineral Zinck*, that after it has been fined, is thrown into Moulds of the Figure we have it; which I can eaſily believe, having found it impoſſible to make it of Lead, Arſenick, Tartar, and Salt-petre, as Mr. *Charas* has directed. *Zinck*, which ſome improperly call the Female Antimony, ought to be white, in fine Flakes, the leaſt ſharp, and the moſt difficult to break that can be: For the more it endures the Fire, and the finer and larger the Flakes are, the more it is valued by the Workmen that uſe it, eſpecially the Founders.

The *Zinck* at this Time is much in Uſe, for the Pewterers have found it more proper to cleanſe their Pewter, than Pin-Duſt and Reſin. It is wrong to believe that *Zinck* is mixt with Pewter to encreaſe its Weight; for unto a Fount of five or ſix hundred Pounds of it, they put but one Pound of *Zinck*; and which is wonderful, the *Zinck* has the Quality of purifying and whitening the Pewter, and acting upon it as Lead does upon Gold, Silver, or Copper. This *Zinck* is uſed to give Copper the Colour of Gold, eſpecially when mixed with Turmerick; and works upon Copper as Arſenick does, that turns it of a Silver Colour; or the *Lapis Calaminaris*, that makes it yellowiſh; or, laſtly, as *Hungarian* Vitriol, that turns Iron into a Copper Colour, as hath been obſerved in the *Philoſophical Tranſactions* of the Royal Society at *London*.

[*Zinck*, called *Zinchum*, *Zinethum*, and *Marcaſita Pallida*, by *Schroder*, is a metallick, ſulphureous, heavy Subſtance, reſembling Lead in Colour, fuſible and ductile to a certain Degree, very hard to break, inflammable, and volatile. It ſeems to have been quite unknown to the Antients; and even the Moderns knew very little of its Nature and Origin, till Mr. *Stahl* explained it, in his *Metallurgia*. It is extracted from the *Lapis Calaminaris*, and from the Lead Ore of the Mines of *Goſſelar*, which Ore is very hard to melt, though it appears rich and ſhining. Three Subſtances are ſeparated from it, *Lead*, *Zinck*, and a kind of *Cadmia Fornacea*, which, melted with Copper, makes a Bath Metal, or Prince's Metal, ſo called from Prince *Rupert*, who is ſaid to have invented it. But the fineſt Metal of this Kind is made of *Zinck* and Copper melted together. In the melting this *Goſſelar* Ore, the Lead remains at the Bottom of the Furnace, and the *Zinck* and *Cadmia* ſtick to the Sides. The *Cadmia* is to be long expoſed to the Air before it is fit for Uſe; and the *Zinck* is purified by careful Meltings, and caſt into Moulds.]

BOOK III.

Of *MINERALS.*

PREFACE.

By Mineral, *in its general Signification, is underſtood, whatſoever Subſtances have any Relation to Mines, or are increaſed in, or have paſſed through them. A* Mineral *is defined by ſome in a ſtricter Senſe to be, a fixed and ſolid Body, produced by Exhalations and Vapours, incloſed in the Bowels of the Earth, as Meteors are formed in the Regions of the Air; and others will have it to be a tender Subſtance, produced in the Earth by Coaggulation, and increaſed by the external Addition of ſenſible Particles, and which oftentimes is the Matter that in Proceſs of Time commences Metal; I ſhall comprehend, under the Name of* Mineral, *every Thing that is of a metallick Nature, and which differs only from Metals, in not being malleable as* Antimony, *or capable of Fuſion, as the* Loadſtone, *&c. and ſhall begin with* Antimony, *which comes neareſt the Nature of Metals, and differs from them only in not being ductile.*

1. *Of* Antimony.

MR. *Furetiere* ſays, *Antimony* is a Mineral that comes very near the Nature of Metals; and ſome are of Opinion it contains all the Principles of them, as it is found near all Sorts of metallick Mines, more eſpecially near thoſe of Silver and Lead; that it contains a double Mineral Sulphur, the one Metallick, approaching the Purity and Colour of Gold, the other earthy and combuſtible, not unlike common Sulphur; a fuliginous, ſooty, ill-digeſted Mercury, partaking of the Nature of Lead; and ſomewhat of a terrene fixt Salt. The ſame Author obſerves alſo, that the Uſe of Antimony, unleſs in the Compoſition of Paints, was wholly unknown till about the twelfth Age; but then a certain Monk, *Baſilius Valentinus* by Name, publiſhed a Book, intitled, *Currus Antimonii Triumphalis*, wherein he undertakes to affirm, that it is a Remedy againſt all Sorts of Diſeaſes. Three hundred Years after, *Paracelſus* brought it into Vogue; but then in the Year 1566 the Uſe of it was condemned by Act of Parliament; and one *Beſnier*, a Phyſician, in 1609, tranſgreſſing it, was excluded the Faculty. In the Year 1637 *Antimony* was again received by publick Authority amongſt the Number of purging Remedies; and in 1650 the Act made in 1566 was repealed. *Anno* 1637 the Faculty cauſed it to be inſerted among the purging Medicines in their *Antidotarium*, printed that Year, herein following the Opinion of *Matthiolus*; and, in ſhort, on the 29th of *March*, 1668, it had the Sanction of publick Authority, by which Graduates had a Liberty of making uſe of it, but with a Prohibition to all others, unleſs by their Advice. It acquired the Name of *Antimony*, according to the Opinion of ſome, from a *German* Monk, the aforeſaid *Valentine*, who, in his Search after the Philoſophers Stone, was wont to make much Uſe of it for the more ready fluxing his Metals; and throwing a Parcel of it to ſome Swine, he obſerved that they had eaten it, and were thereby purged very violently, but afterwards grew the fatter upon it; which made him harbour an Opinion, that the ſame ſort of Cathartick, exhibited to thoſe of his own Fraternity, might do them much Service; but his Experiment ſucceeded ſo ill, that every one who took it died. This therefore was the Reaſon of this Mineral being called *Antimony*, as being deſtructive of the Monks.

Of Natural or Mineral Antimony.

Antimony is taken from the Mine in Maſſes of different Bigneſs, reſembling Lead Ore, but with this Difference, that is both lighter and harder.

And by Reaſon of this Similitude, ſome call it Black Lead, or Marcaſite of Lead; others, the Wolf or *Saturn* of the Philoſophers, becauſe it devours and conſumes all Metals whatever, Gold only excepted. It is alſo called *Proteus*, from the Diverſity of Colours it aſſumes by means of the Fire; but its more ordinary Appellation is *Mineral Antimony*, and it is called by the more underſtanding, *Crude Antimony*, as never having ſuſtained the Fire.

Heretofore *Hungary* was the only Place for Mines of *Antimony*, but now we have none from thence ſince the Diſcovery of thoſe in *France*. The beſt and fineſt *Antimony* is that of the Mines of *Poictou* and *Bretagne*.

Mineral *Antimony* is ſometimes met with pure, and ſometimes loaded with a Sort of Stone, which the Mineraliſts call *Spar*. There is ſome full of *Striæ*, like ſo many Needles; and ſome in a Cake of a greyiſh Black. This is of very little uſe in Medicine, unleſs it be purified by melting, as will be ſeen hereafter. The Chymiſts uſe it indeed for their particular Preparations.

The pureſt Mineral *Antimony* is to be choſen, ſuch as is as free as poſſible from all Sorts of Stone or Spar. It matters not from whence it comes, provided it be good; though there are thoſe that pretend the *Antimony* of *Auvergne* to abound moſt with Sulphur.

Some Gentlemen of the Retinue of the Ambaſſadors of *Siam* have brought home conſiderable Quantities of a Mineral *Antimony*, but no Experiments have yet been made of it. This *Antimony* is white, and full of ſmall Needles; and as far as I can judge, altogether proper for the ſame Purpoſes as the Mineral *Antimony* of *France*. As for that of *Hungary*, I can ſay nothing of it, having never ſeen any of it.

Of caſt or melted Antimony.

Melted *Antimony* is what we improperly call *Crude Antimony*, becauſe it has undergone the Fire to reduce it into Cakes and Needles, after the Manner as we ſee: It is brought from the Places beforementioned. To melt Mineral *Antimony*, the Mineraliſts take two earthen Pots, one whereof they fill with the Mineral in Powder, the other they place empty in the Midſt of a ſtrong Fire, laying a Sort of an Iron Skimmer upon it, upon which they put the Pot of Powder turned upſide down; then encompaſſing both the Pots with Fire, the Antimony will melt, and paſs through the Hole of the Iron Plate, and fall into the empty Pot underneath, and form itſelf into a Cake, as it is ſent to us.

The Iron Plate with Holes, put between the two Pots, ſerves to keep back the Stone or Spar that is found commonly with the Mineral *Antimony*. When the *Antimony* is melted, they take the Pot off the Fire, and when cold, break it, and take out the *Antimony*, which then may be conveniently ſent whither they pleaſe.

Formerly there was to be met with in *France* the *Hungarian Antimony* in Cakes or Loaves of three or four Pounds Weight, interwoven with ſmall Needles running a-croſs each other, of a golden yellowiſh Colour, and at Bottom white, inclining towards that of Silver. This *Antimony* was found in the Mines of the Mountains belonging to *Preſburg*, the Capital of the *Lower Hungary*, where it was melted, and made into the Figure we had it in: But this is now ſo ſcarce, that it is next to an Impoſſibility to find any of it. Thoſe who have worked upon this Sort of *Antimony*, have aſſured me, that it was much fitter to yield whatever is to be obtained from *Antimony* than that of *France*; and withal, that from every Pound of it they could obtain two Ounces of Quickſilver, better than that of *Spain*.

In *France* we have ſeveral Sorts of *Antimony*, which differ only according as they are better or worſe purified and melted. And the next beſt to that of *Hungary* is what we have brought from *Saumur* in *Anjou*, whither it is ſent purified from *Poictou*.

The *Antimony* of *Poictou* ought be in fine beautiful Needles, long, large, white, ſparkling, light, and eaſily broken, and with as little half-melted *Antimony* as may be, which reſembles the Droſs of Iron, which is commonly found at the Top of the Cakes in *Scoria*, and is called the Top of *Antimony*. This Defect, however, is ſeldom found in the *Antimony* of *Poictou*, by Reaſon that the People there are well verſed in refining or melting it: And this is the Sort of *Antimony* that ſhould be uſed in all the following Operations, becauſe it abounds leſs with Sulphur, and affords more of the *Regulus*. We have alſo had, for ſome Time paſt, an *Antimony* from *Bretagne*, in ſmall Needles, very pure, and perfectly fit for the ſame Purpoſes as that of *Poictou*. A third Sort is that we have from *Auvergne*, which, in one word, is good for nothing, being very hard, full of Droſs, and in ſmall Needles, of a tawny Blue, which makes it evident that it is not half purified, nor diveſted of its fetid and malign Sulphur, which gives abundance of Trouble and Difficulty to thoſe who work upon it.

Beſides the great Number of chymical Medicines which are made of, or drawn from *Antimony*, abundance of Artificers uſe it to promote the melting of Metals, and to make the *Regulus*, eſpecially

eſpecially in *England*, whither we ſend a great deal to put in their Pewter, to make it the harder, whiter, and more ſounding. But I obſerve, nevertheleſs, that of late Years the *Engliſh* do not make ſo much uſe of it, becauſe inſtead of the *Regulus* of *Antimony*, they uſe *Biſmuth* now. The Letter-Founders for Printing uſe *Antimony*, to render their Lead the more durable and hard. *Antimony*, powdered, and boiled in a Ptiſan with *Sarſaparilla*, *Guaiacum*, *&c.* is a certain Cure for the ſecret Diſeaſe. And how much ſoever this Drug has been condemned and out of uſe in Times paſt, it is altogether as much in Vogue now. When you make uſe of it, break it in ſmall Pieces, or reduce it into a groſs Powder, and put it into a Linen Rag, to be boiled with other Things. Some give the Powder inſtead of the Liver of *Antimony* to their Horſes, and ſay it has the ſame Effect.

I ſhall not loſe Time here to enter into a Diſquiſition, whether there be Male and Female *Antimony*, as many Authors affirm, as alſo that the Male is the coarſer, more ſandy, ſcaely, and light, and conſequently leſs efficacious than the Female, which is more ponderous, bright-coloured, and more brittle; for I have dealt a great deal in *Antimony*, and never knew any other Difference but what aroſe from its Purification. When it is good, it may ſerve alike to all Purpoſes; ſo that I do not ſee how there can be two Sorts of it.

Lemery. *Antimonium, ſive Stibium*, or *Antimony*, is a Mineral approaching very near to a Metal. It is heavy, ſhining, and in Cryſtals, ſhooting like Needles, of a blackiſh Colour: It is found near the Mines of Metals in ſeveral Parts of *Europe*; as *Hungary*, *Tranſylvania*, *Britany*, *Poictou*, and *Auvergne*. They get it in Pieces bigger or leſs, full of little hard Stones or Pebbles, which the Workmen call *Gangue*. They take the cleareſt, or that which has the leaſt of the *Gangue* in it when they make uſe of it; for ſeveral prefer the Mineral Antimony before that which is caſt and purified.

To purify or refine *Antimony*, they melt it over the Fire in Pots or Crucibles, in order to ſeparate the *Gangue* or Droſs; which cooling, they caſt it into Cakes, as it appears when brought to us: this we uſually, though improperly, call *Crude Antimony*, notwithſtanding it has paſt the Fire. *Hungarian Antimony* was formerly brought into *France* in little Cakes, full of ſmall Shoots like Needles, ſticking interchangeably one with the other, ſhining and inclinable to white, like Silver Ore. But ſince this Mineral has been diſcovered in *France*, we have none comes from *Hungary*, whence it is become very ſcarce. The *Antimony* we ordinarily uſe, is brought from *Poictou*, which you ought to chuſe neat, in fine, long, brilliant Shoots, eaſy to break. It is naturally compoſed of a great deal of Sulphur, like common Sulphur, and of a kind of a *Regulus* like a Metal.

Of the Regulus *of* Antimony.

The ordinary or common *Regulus* of *Antimony*, without Iron, is made of Antimony, Salt-petre, and Tartar, melted together, and caſt into a ſmall Mortar greaſed, and ſo by knocking the Sides of it with a Hammer, the *Regulus* is made to fall to the Bottom; which, if it be good, ought to be white, in beautiful Scales, and like *Biſmuth*. If the *Regulus* ſhould not prove good at the firſt Operation, it may be melted and purified again with a little Salt-petre. The oftener it is melted, the more will it decreaſe, but the better will it alſo be.

Of this *Regulus* are made the Cups and Pills, and other chymical Operations, as ſhall be ſeen hereafter. It is a ſtrong Emetick and Cathartick, taken from four Grains to ſix.

Of Regulus *of* Antimony *with* Mars *or* Iron.

The *Regulus* of *Antimony* with *Mars*, is made of *Antimony*, Salt-petre, and Points of Horſe-nails, or ſmall Nails melted together; which by means of the Fire, and proceeding after the Manner as in the preceding Operation, is reduced into a *Regulus*.

This *Regulus*, if good, is much like the other, but withal ought to have a Sort of Star upon the Top. I ſhall not think it worth my while to recount the many fabulous Stories of the Antients concerning this Star, and the Cauſe of it, but ſhall only take Notice, that it appears finer or worſe, according to the Degree of Fire the *Regulus* has undergone.

Of this *Regulus* are made the Cups, *&c.* which give a purging or emetick Quality to Wine that is let to ſtand in them ſome time; but you ought to be cautioned to throw away the three or four firſt Wines you make with the Cups, leſt they ſhould produce ſome ill Accident.

Whereas moſt People who have Occaſion for the Goblets or Cups of the *Regulus*, find difficulty to come by them, let them apply to a Founder, and they may have what Sorts and Sizes they will, at a cheap Rate, without troubling themſelves with Moulds, as ſeveral have done to their Labour and Coſt, who have at laſt been obliged to give over the Attempt, not being able to make one Cup without a Hole, or ſome other Defect. You may

alſo get theſe ſame Founders to make you the perpetual Pills, or you may eaſily make them yourſelf with a Muſket-ball Mould.

The Pills ſerve for thoſe that have the Twiſting of the Guts, or *Miſerere mei*, ſo called. When they are returned from out of the Body, it is but waſhing and cleaning them again, and they will ſerve as oft as you pleaſe; which gives them the Name of Perpetual. They may alſo be infuſed, as well as the *Regulus*, in Wine, cold, for the Space of twelve Hours; which is afterwards a good Medicine for ſtrong Conſtitutions.

Of Glaſs *of* Antimony.

The *Glaſs* of *Antimony*, is an *Antimony* ſeparated from its Sulphurs, which are a deadly Poiſon; and for that Reaſon ought the Operation to be performed in a Chimney, to avoid the Exhalations: It is afterwards to be melted in a Crucible, and caſt upon a hot Marble, to make in the Manner we ſee it, and as it comes to us from *Holland*.

It is an Operation I cannot adviſe any one to undertake, not only upon Account of the great Difficulty and Hazard attending it, but alſo becauſe we cannot make it turn to that Advantage as the *Dutch* do.

Chuſe the *Glaſs* of *Antimony* flat, of a bright Red, and tranſparent, having as few ſmall, thick, black, and grey Pieces in it as poſſible. I am told the *Hollanders* mix half broken Glaſs in melting it, to diſcharge its black Colour the better, and to make it ſo fine coloured as we ſee it; but the Truth of the Fact I know not. Inſtead of throwing it upon Marble, one may put it in a Founder's Mould, and ſo make Goblets or Cups of it; but this is a Work only for the Curious, there being no Demand for them.

This *Glaſs* of *Antimony* ſerves for a Vomit, taken from two to ſix Grains. Apothecaries make the emetick Wine with it.

Of the Liver *of* Antimony.

The *Liver* of *Antimony*, improperly called *Crocus Metallorum*, is made of *Antimony* and common Salt-petre, mixed and incorporated well together, and by means of lighted Charcoal reduced into a Stone, after the Manner as we have it.

This *Liver* of *Antimony* ought to be choſen in fine ſhining Pieces, ſmooth, brittle, and when bruiſed or pulverized, of a reddiſh Saffron Colour, which is the Reaſon of its being called the *Crocus* or Saffron of Metals; but in Pieces it ought to be Liver-coloured, from whence alſo comes the Name of *Hepar*, or *Liver* of *Antimony*.

This *Liver* is a Sort of *Catholicon* for Horſes; more eſpecially to purge and put them in Caſe, if taken from one Ounce to two in wet Bran, as Mr. *Soyleſel* directs, in the Book called *The Compleat Farrier:* It is of ſome Uſe in Medicine, but ſo little, it is hardly worth ſpeaking of; but on the contrary it is much uſed for Horſes, as well under the Names above, as under that of the Imperial Powder.

This Operation, which ſeems the eaſieſt in the World, is notwithſtanding very difficult to be performed with Succeſs, more eſpecially if one has not good *Antimony* and good Salt-petre, or if it be filled with Salt, which but too frequently happens: Thoſe that undertake this Operation, muſt dry the Salt-petre, and make choice of the *Antimony* of *Poictou*, not of that of *Auvergne*, as well becauſe it is very full of Sulphur, as becauſe it is not ſo well cleanſed as the former; and after they been expoſed ſome Time, mixed together, to the open Air, put a ſufficient Quantity into a Mortar, or Iron Pot, placed in a Chimney; and upon Application of the Fire, a great Noiſe, which the Chymiſts call a *Detonation*, will happen; and when that is over, and the Veſſel cold, the Matter muſt be ſeparated from its Droſs or Scum, which is white, and the Bottom will be a Stone, ſuch as I have deſcribed. *Note*, You had not beſt make uſe of a Bell Metal Mortar, for fear of breaking, which ſometimes happens; or be apprehenſive of Fire. For, on the contrary, this Operation is the beſt Thing imaginable for ſweeping a Chimney; but obſerve to put a Cloth before the Chimney, and to get far enough off for fear of the Vapours, and that you do not perform it in any publick Place. It is an Operation of a very capricious and uncertain Nature; for I have ſeen a great Quantity of Salt-petre and *Antimony* mixed and prepared together, that has made a very fine Compoſition: And again, when one has proceeded after the ſame Manner, in all Particulars, the Reſult has been leſs beautiful, and ſometimes it has altogether miſcarried. Thoſe therefore that have Occaſion for it in Powder, muſt take Care that it be of a fine Red, and not the Powder of ſuch as ſticks to the Tops or Sides of the Veſſel, which is in ſmall, thin, brown Scales; or ſuch as has been ſpoilt, which is often powdered notwithſtanding, and ſo ſold, and this is the Reaſon ſome ſell it ſo much cheaper than others.

I have obſerved, that the true Crude *Antimony*, or that immediately from the Mine, without having been melted, makes the *Crocus Metallorum* much better than the common Kind.

Thoſe that would have *Crocus Metallorum*, fit to be taken inwardly, muſt make it with equal

Parts

Parts of *Antimony*, and refined Salt-petre, and then reduce it to a ſubtil Powder, and waſh it many Times in warm Water, as well to free it from any remaining Salt-petre, as to make it a little more emetick. The more emetick you would have it, the more Salt-petre muſt be uſed; but it conſiderably diminiſhes the Quantity, and makes it a great deal the dearer; though this ought to be no Conſideration, ſince, in ſmall Quantities as it is uſually demanded, it is ſold at ſuch a Rate, that it amply rewards the Labour and Expence.

One may give what Colour one pleaſes to the Imperial Powder, or *Liver* of *Antimony*, according to the Preparation, or according to the Salt-petre that is made uſe of; which if it be of the ordinary Sort, will make it a little darker, or upon the Liver Colour, more than if it was of the beſt and fineſt Salt-petre; and if you add decrepitated Salt, that is, ſuch as has been dried and half calcined, till it has done Crackling, it will be a fine Red, inclining to that of Opal, and therefore it has obtained the Name of *Magneſia Opalina*, or the Ruby of *Antimony*.

Some make uſe of the white Droſs, as well alone, as to draw from it a Salt, or fixed Salt-petre with Water, which is a very good Medicine for Horſes; *Crocus Metallorum*, both waſhed and unwaſhed, is uſed in making the emetick Wine, which is done by putting the *Crocus*, or *Liver* of *Antimony*, in White Wine, and infuſing of it for twenty four Hours.

Of Diaphoretick Antimony.

Antimony Diaphoretick, or the *Calx* of *Antimony*, is the *Antimony* of *Poictou*, and fineſt Salt-petre incorporated together, made into a Powder by the Means of Fire and warm Water; which, before it is quite dry, is formed into ſmall Cakes, and ſo dried and kept for Uſe. This Medicine is ſometimes uſed in malign Fevers, wherefore ſome preſcribe it in the Plague, and other contagious Diſeaſes, it being a Sudorifick, and an Expeller of the *Virus*; though there are others very diffident of its Qualities, ſuppoſing it to have no manner of Virtue, but to be only a Sort of Chalk; which I will not pretend to judge of, but leave it to the Phyſicians to do it. One muſt be careful that other Things are not ſubſtituted for it, as *Ceruſe*, and the like, which ought to be avoided, and may make one careful to buy it only of faithful honeſt Men; for I know no certain Proof of it, unleſs it be that genuine *Diaphoretick Antimony* ought to be extremely white, ſoft, brittle, and wholly void of all Taſte or Smell, being perfectly inſipid. Some ingenious Men have aſſured me, that the Quality of this Medicine is quite altered by keeping: For whereas, when newly made, it is Diaphoretick, it becomes Emetick when old; but this is what I have not experienced; but be it how it will, the new ought always to be preferred.

Two Sorts of Salt may be drawn from Lotions made of it; but conſidering the ſmall Quantity that is to be obtained, I cannot adviſe any one to trouble himſelf about it.

Of the Flowers *of* Antimony.

The *Flowers* of *Antimony* are made in Pots put upon one another, called *Aludels*, being a Vapour raiſed from *Antimony* by the Force of Fire, and found in the Pots in white Powder, which may be gathered with a Feather. *Note*, If you make uſe of an earthen Retort inſtead of Aludels, you will have the Flowers red.

The *Flowers* of *Antimony* are a powerful Vomit, good againſt the Epilepſy and intermitting Fevers, the Doſe is from two to ſix Grains; and of the red, being more emetick, from two to four, taken with any Sort of Conſerve, or in Broth. And I cannot but obſerve, by the bye, that a Man ought not to deal in chymical Medicines, without Advice of a faithful and experienced Phyſician; Empiricks killing with them more than the Sword. How effectual ſoever a chymical Preparation may be, aptly and duly taken, it may be altogether as pernicious unſeaſonably preſcribed.

Of the Butter *and* Cinnabar *of* Antimony.

The *Butter* and *Cinnabar* of *Antimony* ariſe from the ſame Matter, the Degrees of Fire only making the Difference: The Matter is a Mixture of *Antimony* and corroſive Sublimate put into a Retort. That which comes over firſt is a tranſparent Oil, next an Oil as thick as Wax, which being well wrought, is like white Sugar-candy; and the third Matter produced by the Violence and Force of the Fire, is a reddiſh Subſtance in ſmall Needles, pretty much reſembling native *Cinnabar*, from whence it has its Name.

This *Butter* of *Antimony* is a ſtrong Cauſtick, but its principal Uſe is to make the Angelick Powder, as will be ſeen hereafter; the *Cinnabar* is ſudorifick, wherefore it is made uſe of ſometimes in the Small Pox, from ſix to fifteen Grains.

The beſt *Butter* of *Antimony* is very white, and perfectly like to white Sugar-candy; it ought to be as dry as poſſible, and for that Reaſon ſhould be kept in a Bottle well ſtopped.

The *Cinnabar* ought to be choſen in little Pieces, red, and as full as poſſible of thoſe *Striæ*,

or

or little Needles; that which is blackiſh is to be rejected.

Of the Powder *of* Algarot, *or* Mercurius Vitæ.

The *Powder* of *Algarot*, or the *Emetick* or *Angelick Powder*, ſo called, is a white Powder made with Butter of Antimony diſſolved and thrown into warm Water, and ſeveral Times waſhed, and then dried, and ſo kept in a Glaſs Vial for Uſe.

This Powder is a very ſtrong Purge both upwards and downwards; the Doſe from two to eight Grains, in Broth, or any other Liquor. This Powder ought to be very white, and made with the Icy Oil or Butter of Antimony; which is made of the *Regulus*, as we ſhall ſee hereafter; for when the *Emetick Powder* is made with the Butter which was made of *Crude Antimony*, it is by no means ſo white as when with that which was made of the *Regulus*.

Of Bezoar Mineral.

Bezoar Mineral is made of Butter of Antimony, prepared with Spirit of Nitre, and reduced into a white Powder, to which are attributed the ſame Virtues as to the Diaphoretick Antimony, and which therefore is by many uſed for it; but this we ought be aware of; its Doſe is from ſix to twenty Grains.

Of the Icy Oil *of* Antimony.

The *Icy Oil* of *Antimony* is made of the *Regulus* of *Antimony*, and Sublimate corroſive; which, by means of the Fire, are reduced into an Oil, of the Conſiſtence of that we ſpoke of before. When the *Oil* is come over, if you encreaſe the Fire, and take away the Recipient, and put another in its Place with cold Water in it, you will have a very good and beautiful running Mercury.

This *Oil* is very corroſive, and ſerves to conſume fungous Fleſh; it is of this Oil you ought to make the Powder of *Algarot* and *Bezoar Mineral*.

Of the Cauſtick Oil *of* Antimony.

The *Corroſive Oil* of *Antimony* is made with Powder of Antimony, Spirit of Salt, and Corroſive Oil of Vitriol; out of all which, by the means of Fire, is drawn a whitiſh Liquor, to be kept for Occaſion; it is of uſe in carious Bones, being a ſtrong Eſcharotick; alſo for Gangrenes, and to deterge old Ulcers.

This Liquor is not, properly ſpeaking, an Oil, not being at all fat. One may alſo draw another Liquor from Antimony, with Sugar-candy.

Of the Tincture *of* Antimony.

The *Tincture* of *Antimony* is made of Salt of Tartar and Antimony, melted together; from which, with Spirit of Wine, is drawn a red *Tincture*, eſteemed a very good Antiſcorbutick; as alſo to be good againſt hyſterick Vapours in Women, the ſcorbutick Itch, and many other Diſeaſes; Doſe from four to twenty Drops.

Of the Magiſtery *and* Precipitate *of* Antimony.

This *Precipitate* is made of a very fine Powder of *Antimony* and *Aqua regia* mixed together, and afterwards thrown into an earthen Pan of Water; the Powder found at the Bottom is to be dulcified by waſhing, and is properly the Sulphur of *Antimony*, being inflammable, like common Sulphur: Its Uſe is in Apoplectick and Paralytick Caſes; Doſe from two to twelve Grains in ſome convenient Vehicle. Beſides this Sulphur of Antimony, there is moreover another called the *Golden Sulphur* of *Antimony*, which is made of the *Scoriæ*, or Droſs of the common *Regulus* of *Antimony*, without *Mars*; from which, being boiled in Water, filtrated and precipitated with Vinegar, you will have a red Powder, which, when dried, ſerves to provoke to vomiting; the Doſe whereof is from four to ſix Grains in Broth or Pills. Let it not ſeem ſtrange that I enlarge not more upon the Chymical Proceſſes, ſince they are not the Druggiſt's Buſineſs; and Meſſieurs *Charas*, *Glacer*, and *Limery*, have ſo amply treated of them already.

[*Antimony* is the στίμμι of *Dioſcorides*; the τετραδύνον of *Hippocrates*; the *Lapis Spumæ candidæ nitentiſque non tamen tranſlucentis* of *Pliny*; and the *Ailmad* or *Alamad* of the *Arabians*. *Antimonium*, *Charlt. Foſſ.* 49. *Worm.* 125. *Stibium*, *Fabr.* 27. It is of different Kinds; ſome is dug up with the Appearance of poliſhed Iron or Lead, but brittle and mixed with white cryſtalline Stones; ſome is compoſed of fine ſhining Lines like Needles, ſometimes placed in regular Ranks, ſometimes without any Order, and this is what is called *Male Antimony*; ſome is diſpoſed in thin broad Plates, or *Laminæ*, called *Female Antimony*; ſome is a Congeries of ſmall Lead-coloured Rods; this is got from a tender white Stone, and eaſily melting in the Fire like Sulphur, which enters its Compoſition in great Quantities. *Antimony*, of this Kind, is found in ſeveral Parts of *Italy*; ſome is marked with Saffron-coloured, or reddiſh Spots, as the *Hungarian*

garian Antimony, which is mightily eſteemed by the Chymiſts. *Antimony* is thus frequently found in a particular Ore, but often alſo it is mixed with other Metals, and hence it has its Name from ἀντὶ μόνου, an Enemy to being alone. Ores of *Antimony* are found in many Countries; the Glebes are dug out of the Earth, mixed with a ſtony Matter.

Antimony, when made into a *Regulus*, and calcined in the Sun, may be ſeparated from almoſt all its Sulphur, and turn to an Aſh-coloured true vitrifiable Calx, which melted by a ſtrong Fire, becomes a Hyacinth-coloured Glaſs; and if any ſulphureous Subſtance be added to this Glaſs while in Infuſion, it preſently recovers its *Reguline* Form and Splendor. *Antimony* contains ſo much Sulphur, that an acid Liquor may be extracted from it nothing different from Spirit of Sulphur. From theſe, and many other Obſervations, it is evident, that *Antimony* conſiſts of a ſulphureous Acid, of a bituminous, inflammable Part, and of a vitrifiable, metallick Earth. The *Regulus* is diſſolved by *Aqua regia*, but is only calcined by the other Diſſolvents of Metals, *Antimony* diſſolves and deſtroys all other Metals, except Gold, when melted with them, but melted with that, it conſumes all the other Metals which were mixed with it, and the Gold comes out brighter and finer than before.

What our Author means by its being uſed as a Fucus or Coſmetick, is, that among the Antients it was uſed to dye the Eyebrows and Eyelaſhes black, as by Queen *Jezabel* in the Scriptures, and the *Hebrew* Women in general, who were reproved for it by the Prophets.

Crude Antimony may be ſafely taken inwardly in large Doſes; but its Preparations, by means of Chymiſtry, are almoſt all of them rough, and very violent. They have been much in Eſteem, but at preſent the *Cinnabar* is almoſt the only one in Uſe, except for Horſes.

If any one is in Danger from an over Doſe of any of the other Preparations, Spirit of Vitriol, or *Oleum Sulphuris per Campanam*, is a much ſafer and more expeditious Thing to check the Vomiting, &c. than *Opium*.]

2. *Of the* Load-Stone.

Pomet. THE *Load-Stone*, according to Authors, is a black Mineral Stone, and is endued with ſurpriſing Qualities; ſuch as directing its Poles towards the North and South, attracting Iron or Steel, and communicating its Virtue to them by the Touch. It is found in almoſt all Sorts of Mines, more eſpecially in thoſe of Copper and Iron, of whoſe Nature it participates. Good *Load-Stone* is very ſolid, not porous nor very heavy, and of an homogeneous Subſtance; of the Colour of Iron, or a ſhining Black, and ſometimes of a grey or obſcure Blue, inclining to Red. The Virtue which the Load-Stone communicates to Steel, is loſt when the Figure of it is altered, whether it be with a Hammer or one's Fingers, as may be ſeen with a ſtraight Needle if bent, or a crooked one if ſtraightened, after it has been touched, as Father *Grimaldi* affirms in his *Phyſicks*. The *Load-Stone* that attracts Iron very forcibly, is called a generous or noble Stone. The Way of keeping it is in a dry Place, wrapped in Scarlet Cloth, or rather to preſerve its Virtue, to arm it, and hang it up by its *Equator*, with a Cat-gut, that it may have its free Tendency. If it chance to fall, it loſes its Strength for awhile: Its Poles are found by applying to it Pieces of a common Needle; for the two Places where the Needles remain ſtrait, are the two Poles. It is ſaid this Stone, taken inwardly, intoxicates and renders ſtupid; and that its Antidote, or Counter-Poiſon, is Gold or Emerald Stone. *Matthiolus* tells us, that red Bronze Metal, melted with ſome of this Stone, becomes as white as Silver, after the ſame Manner as Copper does of a golden Colour, with *Lapis Calaminaris*. *Pliny* ſays, *Dinocrates* the *Alexandrian* had begun to vault the Temple of *Alſinoe* with Load-Stone, in order to have his own Statue, which was made all of Iron, ſuſpended in the Air. The ſame Thing has been affirmed of *Mahomet's* Temple, but theſe Accounts are altogether fabulous. It is called in *Latin*, *Magnes*, from a Shepherd named *Magnes*, that happened to diſcover it upon Mount *Ida*, by hitting upon it with the Iron of his Sheep-crook, according to *Nicander*. It is alſo called, *Lapis Lydius*, or *Heraclius*, becauſe found in *Heraclea*, a City of *Magneſia*, which belongs to *Lydia*: In *French* it has the Name of *L'Aimant*, from its Love or Attraction of Iron. It is beſides called *Lapis Herculis*, becauſe it directs to find out the Ways, over which *Hercules*, by Antiquity was ſaid to be the preſiding Divinity: And laſtly, *Sideritis*, from its Adheſion to Iron, which the *Greeks* call *Sideros*.

Beſide, the forementioned Load-Stone, the Abbot *de Vallemont*, in his Treatiſe, tells us of another Kind, which was found upon the Top of *Chartres* Steeple, in the Year 1691, and which he had experienced to attract Iron, and to direct its Poles North and South, and to have the ſame Declination as the ordinary Load-Stone. It were to be wiſhed therefore, that this Kind could be oftener met with, and it ought to be ſought after amongſt the Ruins of old Buildings, it certainly having very extraordinary Effects. Mr. *de Vallemont* has ſhewn

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me one of them of a ſurpriſing Excellency and orce, in attracting Iron of a great Weight. I would willingly enlarge upon this Sort of Load-Stone, were it more common, but it is very ſcarce; and ſince the King has had one preſented to him, it is ſought after with great Diligence, to adorn the Cabinets of the *Virtuoſi*: However, I refer the Curious to Mr. *Vallemont's* aforeſaid *Treatiſe*, who has obliged the Publick with the Deſcription of this Load-Stone, and explained how it was formed by Nature in the aforeſaid Place. There is a third Sort, but very rare alſo, which is what we call *White Calamite*, or the *White Load-Stone*. There is moreover, a fourth Sort, very frequent and common amongſt us, being no better than a ſort of Droſs of Iron, but this is what is commonly ſold, becauſe the true black *Æthiopick* one, by Reaſon of its great Excellency, is ſcarce, and we cannot ſhift without it, eſpecially thoſe that go to Sea, becauſe it always tends towards the North, and ſhews the Pilots where they are. The *White Magnet* alſo, being of great Virtue, is much ſought after, but ſeldom met with; and in its Place there is commonly ſold a worthleſs Sort of Marle, or white Earth, which is found ſticking to the common Load-Stone; but this is eaſily diſtinguiſhed from the true White Load-Stone, which is of a ſort of greyiſh White, ponderous, and attracts Iron as forcibly as the black one of *Æthiopia*, which that which is ſold for it will not do; beſides this, its Cheapneſs ſufficiently argues its being ſpurious. We therefore are obliged to content ourſelves with ſuch as are brought from divers Places, particular from *Auvergne*, which we can hardly get ten Groats a Pound for; much leſs could we be able to ſell them at the Price of genuine Stones, which ſome have been glad to purchaſe for their Weight in Gold; but though we find much Fault with what we ſell, it does not follow but there are ſome good, though in Truth you will ſcarcely meet with above ten amongſt a Thouſand. However, thoſe among ours that can raiſe ſmall Needles, or make the Filing of Iron move upon a Plate, by only paſſing the Stone along underneath, without touching it, or have Force enough to make Steel-Duſt ſtick to them, when thrown upon them, may ſerve for any medicinal Uſe, and for the *Emplaſtrum Divinum*, which is their chief Uſe therein.

Magnes, Lapis Heraclius, Lapis Sideritis, Lapis Nauticus, Lapis Lemery. or the *Load-Stone*, is a compact, hard, Mineral Stone, pretty heavy, and of a black or brown Colour, or obſcure blue, which is found in Iron or Copper Mines. The beſt is found in *India* and *Æthiopia*; but it is likewiſe brought from *Italy*, *Sweden*, and *Germany:* It has a great many excellent Properties, both for Travellers and Artiſts, which are too tedious to relate. The moſt valuable *Magnet* is that which attracts the greateſt Weight of Iron. I have ſeen a Load-Stone no bigger then a common Apple that would attract and ſuſpend a Bar of Iron that weighed twenty-two Pounds. This Stone was ſold for an hundred Piſtoles.

They make the Load-Stone one of the Ingredients in the Compoſition of Plaiſters appropriated to Wounds that are made with a Sword, where they think ſome Pieces may be left behind; for they believe that the *Load-Stone* which is in the Plaiſter, attracts and draws the Iron out of the Wound, though the Virtue in the *Load-Stone* there can never produce this Effect: For firſt of all, being powdered finely, as it ought to be, it loſes all its Force of Attraction: And, ſecondly, being mixed in the Plaiſter, though its Virtue ſhould remain, it would not have Power to act, being confined by the Viſcidity of the Gums and Reſins. There is a white Load-Stone, but it is very ſcarce; it ought to be of a greyiſh White, heavy, and attractive. All theſe Stones are aſtringent, and ſtop Blood, outwardly applied.

[The *Load-Stone* is the *Magnes*, *Aldr. Muſ. Met.* 553. *Worm.* 62. *Charlt. Foſſ.* 62. *Lapis Magnes*, *Matth.* 1384. the Ἡρακλειος λίθος and Ἡρακλιωτὶς of the *Greeks*; the *Magnetis* of *Avicenna*; and the *Calamita* of *Rhazes*. It is alſo called *Lapis Lydius*, but this Name ought to be avoided, becauſe it is common to the Load-Stone, and to what we call the Touch-Stone, by which the Truth of Gold and Silver are tried: They both received this Name from their common Country; but theſe two Significations of the *Lapis Lydius* are to be carefully diſtinguiſhed, the two Stones being very different from each other.

The *Load-Stone* is found in many Countries of *Europe*, particularly in Iron Mines; but the beſt are brought from *Æthiopia* and the *Eaſt-Indies*. It is undoubtedly a kind of Iron Ore; for in ſome Places of *Germany* they actually extract Iron from it; and when expoſed to the Focus of a great Burning-glaſs, it manifeſtly diſcovers Iron.

It is not uſed inwardly in Phyſick; though *Galen* ſays it has the ſame Virtues as the Blood-Stone, and alſo ſome purgative Quality, for which he recommends it in Dropſies; and *Dioſcorides* preſcribes it to evacuate groſs melancholick Humours. Externally it is drying, aſtringent, and conſolidating, and is an Ingredient in ſome Plaiſters.

The *White Load-Stone* is the *Magnes Albus*, *Mont. Ex.* 13. *Magnes Candidus*, *Kentm.* 14. *Aldr. Met.* 560. From both theſe we ought to diſtinguiſh the

the *Magnes* of *Theophraſtus*, which was, as he ſays, white, and ſhining like Silver, not hard, but eaſily turned into Veſſels, neither did it attract Iron. It had its Name, as the *Load-Stone*, from *Magneſia*, a Town in *Lydia*. This was, in all Probability, a kind of native Litharge, and was that kind of *Magnes* ſaid to be poiſonous; whence from confounding this with the true *Load-Stone*, that was alſo, in after Times, accounted a Poiſon.]

3. *Of* Natural Cadmia, *or* Calamine-Stone.

Pomet. CADMIA, *Calamine-Stone*, or *Lapis Calaminaris*, is a Mineral, whereof there are two Sorts, the Grey and the Red.

The firſt is not unlike grey Bole, only it is harder; it is found in *Germany* and *England*, near the Lead Mines, and alſo near *Liege*.

The ſecond Sort is a Stone of a reddiſh Colour, interlaced with white, hard, heavy Veins, full of round hard Grains, of the Bigneſs of Pepper. Theſe Stones are found in great Plenty in *Berry*, near *Bourge* and *Saumur*, where there are whole Quarries of them, and one may have what Quantity one will for the Digging. They may be had alſo in many other Places; but ſince thoſe of *Berry* are as good as any, it is not worth our while to have them brought from more diſtant Places.

This Stone is of ſome Uſe in Medicine, as it is aſtringent and deſiccative; it is alſo an Ingredient in ſome Galenical Compoſitions, for all which Uſes, it ought to be prepared upon a Porphyry, and made into Cakes, with Roſe-water, and is, prepared, what the Apothecaries called *Lapis Calaminaris*.

As for the firſt Sort, how genuine ſoever, it is of very ſmall Uſe in Phyſick; its chiefeſt being to turn red Copper into yellow, which is called *Leton*, or *Braſs*.

Lemery. *Cadmia*, in *Arabick Clinia*, *vel Chilimia*, in *Engliſh Cady*, is a Mineral Subſtance, whereof there are two general Kinds, one natural, and the other artificial; the natural is metallick as *Cobalt*, or not metallick as *Lapis Calaminaris:* The artificial is a kind of *Scoria*, which is ſeparated from the Metals in the Founders Works, as are the Pompholyx, Tutty, *&c.*

[*Calaminaris-Stone* is the *Cadmia Foſſilis*, *alias Lapis Calaminaris*, *Worm.* 128. *Charlt. Foſſ.* 51. *Cadmia Foſſilis*, *Aldr. Muſ. Met.* 256. *Cadmia Lapis Calc. Muſ.* 460. The Name *Cadmia* has been applied to ſeveral Things; *Dioſcorides* underſtood by it, the Recrements of Braſs in the Furnace; *Galen* applied it to theſe, and alſo to another native Subſtance found in the Iſland of *Cyprus*, which he calls λίθωδης, or ſtony; and *Pliny*, beſides the factitious *Cadmia* of theſe Authors, mentions another by the Name of *Lapis Æroſus*, which he ſays was an Ore out of which Copper was made; which was, perhaps, the ſame with the *Cadmia Lapidoſa* of *Galen*. The Dealers in Metals, and from them others, have alſo called by the Name of *Cadmia*, the Stone, which is the Subject of this Chapter, the *Lapis Calaminaris* uſed in making Copper into Braſs; and the *Germans* have given the ſame Name to *Cobalt:* Therefore *Agricola* and the other more modern Writers diſtinguiſh three Kinds of *Cadmia*; the Metallick, the Foſſil, and that of the Furnaces.

The metallick *Cadmia* is a foſſil Subſtance, containing ſome Portion of Copper or Silver, or both, and is of two Kinds; the *Cyprian*, which is alſo found in *Aſia* and *Italy*, and is a Copper Ore; and probably is what *Galen* means, though he does not mention that Copper was obtained from it; and the *German*, or *Cobalt*, a metallick Subſtance, from which are prepared *Arſenick*, *Zaffera*, and the *Encauſtum Cæruleum*.

The foſſil *Cadmia* is the *Lapis Calaminaris*, the Subject of this Chapter. It is a foſſil Subſtance of a middle Conſiſtence between Stone and Earth, and of different Colours, as whitiſh, yellowiſh, or reddiſh. Theſe are all found in many Parts of *England*, and that of the laſt Colour is uſually full of ſmall ferrugineous Globules, and is found in great Quantities in *France*; the others are dug in *Germany*, near *Aix la Chapelle*. They ſeem to partake of Iron Ore, as moſt of them are attracted by the Load-Stone, and are the proper Ores of *Zink*. This was probably unknown to the antient *Greeks*, or at leaſt not uſed in Phyſick, ſince it is not mentioned either by *Dioſcorides* or *Galen*. It is now much uſed in drying Ointments.

The *Cadmia* of the Furnaces is the Tutty deſcribed already in its Place.]

4. *Of the* Hæmatitis, *or* Blood-Stone.

Pomet. THE *Lapis Hæmatitis*, or *Blood-Stone*, is a Mineral of a reddiſh Colour, hard, ponderous, with long pointed Needles, very dangerous to ſuch as are pricked by them.

This *Stone* is brought us from many Places, there not being any Iron Mines wherein it is not found.

Chuſe thoſe Stones that are of the higheſt Colour, with fine *Striæ*, or Needles, and as much like Cinnabar as may be.

This Mineral has ſome Uſe in Medicine; as it is aſtringent, deſiccative, and good to ſtop Bleedings, uſed externally, or given inwardly in fine Powder; the Doſe is from four Grains to a Drachm.

Drachm. Mr. *Charas* obſerves, in his *Pharmacopœia Chymia*, Page 823, that if you drive it over the *Helm*, in a Retort, with *Sal Armoniack*, you may draw Flowers of the Colour and Smell of Saffron, which are what they call the *Flores Aromatici Philoſophorum:* And moreover you may make with it a chalybeate acid Spirit; and with Spirit of Wine, a Tincture and Flowers; both which have great Virtues, according to the aforementioned Author, to whom I refer you.

It is ſaid this *Stone* has a ſovereign Virtue to ſtop Blood, from whence it derives its Name of *Lapis Hæmatitis*, or the *Blood-Stone*.

This *Stone*, being powdered, as the *Load-Stone*, enters the Compoſition of ſome Galenick Medicines: Alſo thoſe that work in Metals, or in queſt of the *Philoſophers Stone*, make uſe of it.

Goldſmiths, and thoſe that gild, uſe it too, to poliſh their Work, whether it be upon Silver, Copper, Iron, Wood, or whatever.

There is alſo another Sort of *Blood-Stone* called the *Red Crayon*, uſed by ſuch as deſign and draw Sketches: it is like that of *Spain*, with this Difference, that it does not appear ſo ſparkling with Needles, but dull and unpoliſhed, like Earth.

This kind is brought us from *England*, and there are two different Sorts of it; the one good, which is pretty tender, ſoft, and eaſy to ſaw or cut into Crayons; but the other, not worth any Thing, hard and gravelly, and will not admit of cutting.

Hæmatitis, *Lapis Sanguineus*, or the *Lemery*. *Blood-Stone*, is a hard, ſolid, heavy Stone, participating of Iron, diſpoſed like Needles, of a reddiſh brown Colour, but becoming red as Blood, as it is reduced to Powder; they take it from the Iron Mines. The beſt and moſt eſteemed is that of *Spain*, which is clear, heavy, hard, and ſolid, in fine Shoots, of a reddiſh brown Colour, with Streaks that are blackiſh without, and reſembling Cinnabar within; it is very aſtringent and drying, ſtops Blood, and is given internally, as well as uſed externally, in fine Powder; the Doſe from fifteen Grains to a Drachm. There is another Sort of Blood-Stone brought from *England*, called the *Baſtard Hæmatitis*; it differs from the former in that it neither ſhoots into Needles, nor is ſo hard: Chuſe ſuch as is of a browniſh red, weighty, ſolid, and ſmooth; it is aſtringent, and is called *Hæmatitis* from αἷμα, Blood, becauſe being powdered, it is of the Colour of Blood, and ſtops Bleeding.

[*Blood-Stone* is the *Hæmatitis*, *Charlt. Foſſ.* 27. *Worm.* 64. *Lapis Hæmatitis*, *Math.* 1381. λίθος αἱματίτης of the *Greeks*; and the *Sedenegi*, or *Sadanegi* of the *Arabians*. It is an Iron Ore; and in *Bohemia* they extract an excellent Iron from it: It is often found in Iron Mines in a diſtinct Ore, but there are always found near it, wherever it is, red Earth and red Stones; it is dug up in *Germany*, *Italy*, and *Spain*, but the laſt is the beſt. *Pliny* diſtinguiſhes five Kinds of it, according to the Countries it comes from, and its different Colour and Hardneſs; and others divide them from their outward Appearance; ſome are uneven and angular as thoſe of *Spain*; ſome cluſtered on the Surface like Bunches of Grapes, and therefore called *Botryoides*, as thoſe brought from the *Harts Foreſt* in *Germany*; and others are formed in various Convolutions, like the Inteſtines, or the outer Surface of the Brain: theſe are beautifully delineated by *Aldrovandus* and *Imperati*.

The *Green Blood-Stone*, or *Heliotrope*, is the *Heliotropius*, *Worm.* 94. *Lapis Porraceus guttatim*, *punctulatim*, *vel fibratim ſanguineus*, *Heliotropium dictus*, *Cup. Hat. Cath. Sup.* 50. It is a very beautiful green Stone, marked with red, and is ſaid to poſſeſs the ſame Virtues with the other.

What our Author, and ſome others, mention as another kind of *Blood-Stone*, uſed for Crayons, is an Earth well known in *England*, under the Name of *Red Oaker*, *Ruddle*, or *Marking-Stone*. It is the *Rubrica Fabrilis*, *Calc. Muſ.* 134. *Rubrica*, *Charlt. Foſſ.* 2. *Worm.* 4. *Rubrica Fabrilis mollis*, *Kentm.* 8. This is ſometimes brought to a paler Colour with the Addition of Chalk, then worked up into Cakes, and ſold under the Name of *Bole Armenick*; and in ſmaller round Pieces, marked with ſome Impreſſion, under that of *Terra Sigillata Rubra*. There is alſo another harder Kind of this, the *Rubrica Fabrilis Dura* of *Kentman*; *Rubrica Laminata* of *Charlton* and *Wormius*, which is uſed by the Turners, and muſt be wetted before it will mark.]

5. *Of* Spaniſh Emery, *and the other* Emeries.

EMERY of *Spain* is a Marcaſite, *Pomet.* or ſtony Mineral, with ſmall Veins of Gold running through it, which is found in the Gold Mines of *Peru*, and elſewhere: It is of much Account amongſt thoſe that ſeek the Philoſophers Stone, becauſe of the golden Veins that adorn it; and it is at this Day ſo valuable and ſcarce, that thoſe that have any of it may ſell it for its Weight in Gold; the King of *Spain* has forbidden the Exportation of it out of his Kingdom, which is the Reaſon it is ſo very ſcarce to be found. This *Emery* is of little or no Uſe in Phyſick, though Mr. *Demeuve* ſays it is of a corroſive and cauſtick Quality.

There are, beſides this, two other Sorts of *Emery*,

Emery, one whereof is reddiſh, and found in Copper Mines, as well in *Sweden* as other Places, and is what ſome ſell for *Emery* of *Spain*, but it is eaſily diſtinguiſhable from it, being more rough, ſolid, and hard, of a fine red Colour, and not veined with Gold.

The third Sort is that which is commonly uſed by Armourers, Cutlers, and, in ſhort, by all thoſe that work upon Iron or Steel, there being nothing that poliſhes like pounded *Emery*. It is alſo uſed in poliſhing Steel, Looking-glaſſes, ſeveral ſorts of Stones, and upon a great many other Occaſions in the mechanick Way.

The common *Emery* is brought to us from ſeveral Countries where there are Iron Mines, and likewiſe from *England*; and there are none but the *Engliſh* that trouble themſelves about the powdering or grinding it in Mills which ſerve only for this Purpoſe, or to grind Stones of a like Nature; for this ordinary or common *Emery* is ſo hard, that whoever would pretend to powder, or beat it in a Mortar, would be apt to make Holes in the Mortar: And as this Mineral is made much uſe of, eſpecially in Powder, that ought to be choſen which is in fine Powder, pure and clean; if in Stone, let it be as bright-coloured, and as free as you can from other Stones.

Emery cuts Glaſs as the Diamond does, but makes no Impreſſions upon Diamonds as it does upon other precious Stones. It is ſaid, if melted with Lead and Iron, it encreaſes their Weight, and hardens and makes them become red; which I have not experimented. Some alſo mix *Emery* with the ſoft pale *Madagaſcar* Gold, but it muſt be that of the ſecond Sort, which comes from the Copper Mines.

It is made uſe of alſo to cut and divide Marble. They affirm likewiſe that it becomes an impalpable Powder, if put into Brandy or Spirit of Wine, which I cannot vouch for, having never tried it; that which falls from the Lapidaries Mills, and looks no better than Mud, is by ſome made up into Balls, and ſold to ſeveral People under the Appellation of the *Putty* of *Emery*.

Smyris Lapis, or *Emery*, is a kind of Marcaſite, or very hard Stone, whereof there are three Sorts; the firſt and moſt eſteemed is called *Spaniſh Emery*, becauſe it is found in the Gold and Silver Mines of *Peru*, and ſeveral other Parts of *New Spain*; it is reddiſh, mixed with Streaks of Gold and Silver. This Kind of *Emery* is very ſcarce, for becauſe of the Gold contained in it, the King of *Spain* has forbid the Tranſportation of it. The Second is ſmooth, and red, but has nothing of Gold or Silver in it; it is found in the Copper Mines. The Third is common *Emery*, whoſe Colour is blackiſh; it is got in the Iron Mines; they powder or grind it in *England*, by certain Mills made for that Purpoſe, which they could not do in Mortars, becauſe of the great Hardneſs of this Stone. This powdered *Emery* is uſed to poliſh or clean Arms, Knives, Looking-glaſſes, *&c.* You muſt chuſe that which is in the fineſt Powder, pure and clean. All theſe Stones are made uſe of to cut and poliſh precious Stones, Glaſs, and Marble, and are of no Importance in Phyſick, except only that they may ſerve to clean the Teeth. What falls from the Lapidaries, in working with this, they dry and call *Putty* of *Emery*.

Lemery.

[*Emery* is the *Smyris* and *Smerillus* of the Shops, *Smiris*, *Worm.* 65. *Ald. Muſ. Met.* 653. *Charlt. Foſſ.* 27. The σμύρις of the *Greeks*; the *Smergium* of *Serapion*; and the *Sumbagedi* of the *Arabians*. It is a ferrugineous, heavy, metallick Subſtance, of the Iron Ore kind. The common *Emery* is blackiſh, and found in many Parts of *Europe*; eſpecially in an Iſland on the Coaſt of *Tuſcany*, and in *Guernſey*, in the *Britiſh* Channel. It is recommended by *Dioſcorides* and *Galen* as a Dentifrice; but it corrodes the Teeth too much, and inſenſibly wears them away.

The *Spaniſh Emery* is greatly in Eſteem with the Searchers for the Philoſophers Stone: they extract a Tincture from it with Spirit of Sea Salt, with which they ſay they can fix Mercury in an Inſtant, and call this Subſtance Miraculous Precipitate, fancying they ſhall, by means of it, at length attain to the true Art of making Gold.]

5. *Of the* Magneſia.

MAGNALES, *Magneſia*, *Magne*, or *Manganeſe*, is a Mineral pretty near approaching to Antimony, only it is ſofter, and brittle, like Free-Stone, and made up of ſhining Sparkles inſtead of *Striæ*. *Pomet.*

There are two Sorts of *Magneſia*, the Grey and the Black; the former is very ſcarce, and ſo not much in uſe, but the black is very much uſed, as well by Enamellers, as Potters and Glaſs-makers, who purify and whiten their Glaſs, by putting in a ſmall Quantity of it; whereas, ſhould they add too much, it would be of a blue or purple Colour.

We have it from many Places in *Piedmont*, where it is found in the Mines in Pieces of different Figure and Bigneſs; as to the Choice of it, let it be as brittle, as ſparkling, but as little loaded, or other extraneous Bodies as may be.

Monſieur *Furetiere* is very much miſtaken in

affirming *Magneſia* to be the ſame Thing as *Safre* and *Perigueur*, both which I am going to treat of, and firſt of *Perigueur*.

[*Magneſia* is the *Sapo Vitri Merr. Pin.* 214. *Manganeſe*, *Schwenk. Not. in Boer. Chym.* 140. It is a foſſil, metallick Subſtance, found in *Germany*, *Italy*, *Piedmont*, and near *Mendip Hills* in *England*; and wherever the Miners find it, they conclude there is Iron Ore near; it is uſed in Glaſs-making, and to colour earthen Veſſels of a purpliſh Black, but is of no uſe in Medicine.]

7. *Of* Perigueur, *or* Perigord-Stone.

Pomet. PERIGUEUR, or *Perigueux*, is a Mineral, or black Stone, like black Coal, heavy, hard, and difficult to be reduced into Powder.

Enamellers and Potters make uſe of it. There needs no other Choice about it than to ſee that it be pure, and clean from Impurities; for if there be any other Mineral mixed among it, it would ſpoil all the Works it is employed in; therefore they that ſell it to the Workmen, muſt take the ſame Care as they do in Lead Ore.

The *Perigueur* which we ſell at *Paris* is brought us from *Dauphiny* and *England*.

Lemery. *Lapis Petracorius*, *Perigord*, or *Perigueux*, is a kind of Marcaſite or hard Stone, that is heavy and ſolid, black as Coal, difficult to reduce to Powder. It is met with in ſeveral Mines of *Dauphiny*, and in *England*, from whence it is brought us in Pieces of different Sizes; the Enamellers and Potters uſe it: You ought to chuſe it pure and neat; it is deterſive and aſtringent.

[This is the *Lapis Petracorius*, *Dal.* 34. It is a foſſil Subſtance, ſeeming to contain ſome Particles of Iron, and uſed by the Earthen Ware-workers; but never heard of in Medicine.]

8. *Of* Safre, *or* Zaffre.

Pomet. SAFRE, or *Zafre*, is a Mineral of a bluiſh or Partridge-eye Colour, which the *Engliſh*, *Dutch*, and *Hamburgers*, bring us from the *Eaſt-Indies*, and eſpecially from *Surat*.

Moſt of the *Safre* we have is in a grey Powder, like Aſhes, from which it ſo little differs in Appearance, that we are forced to conſult the Workmen, who uſe it, to know, by Trials, whether it is what it ought to be.

There are, however, two Sorts of *Safre*, the fine and the common; the former is in a bluiſh or cineritious Stone, the latter in Powder; and very often ſo bad, that it is hardly good for any thing, and being ſo very weighty muſt needs be mixed with ſome ſtony Subſtance, the other being much lighter.

Safre is much uſed by *Delft* Ware and Glaſs-makers, to give a blue Colour to both Sorts of Ware: It is alſo with *Safre* that they colour calcined Pewter, in order to make the falſe Stone, which I have noted in the Chapter of *Enamels*: And laſtly, with *Safre* it is that the azure Colour of Glaſs is produced, as is before obſerved, and of which is made the counterfeit *Sapphire*.

Lemery. *Saphre*, *Safre*, *Zafre*, or *Sapphire*, is a Mineral whereof there are two Kinds; one called *Fine Sapphire*, and the other common: The fine Sapphire is a pretty ſoft Stone, of a bluiſh Colour; the common Sapphire is a greyiſh heavy Powder; both ſorts come from *India*. The fine Sapphire is uſed to give a blue Colour to Enamel, to Earthen Ware, and Glaſs; they likewiſe colour counterfeit Sapphires with it, whence it takes its Name.

[*Zafer* is a Preparation of *Cobalt* (to be treated of hereafter) which is thoroughly calcined, then made into a fine Powder, and mixed with three Times its Quantity of powdered Flint-Stones; then put into large Tubs, and moiſtened with a little Water, where, in a ſhort Time, it becomes a ſolid firm Maſs, and is called *Zaffra*: It is uſed by the Potters, Glaſsmen, *&c.* but not in Medicine.]

9. *Of* Ruſma.

Pomet. RUSMA is a ſort of Mineral, in Colour and Figure reſembling the Droſs of Iron, found in great Plenty in *Galatia*. This Mineral is in ſuch Vogue amongſt the *Turks* to take off Hair, that the *Grand Signior* has an Income of 30,000 Ducats *per Annum* ariſing from it. This Depilatory is very little uſed in *France*, but I am ſure if it was better known, it would be preferred to Lime and Orpiment upon that Occaſion, it being ſtronger and more efficacious, and the Uſe of it attended with no ſort of Danger.

Lemery. *Ruſma* is a Mineral that is like the Droſs of Iron, both in Colour and Figure; there is abundance of it in *Galatia*: It is a Depilatory very much uſed by the *Turks*.

[The *Ruſma*, or *Reuſma* of the *Turks*, has been taken, by ſome Authors, to be *Orpiment*; but it is much more probably the *Sory*, as I have already obſerved at the End of the Chapter of *Chalcitis*.]

10. *Of* Orpiment.

Pomet. ORPINE, or *Orpiment*, is a Mineral commonly found amongſt Copper Mines; compoſed of a great Quantity of Sulphur, and

and a corroſive Salt, in Stones of a different Bigneſs, Colour, and Figure; ſome being of a golden, other of a reddiſh, and ſome of a greeniſh Yellow, and ſome almoſt quite red; which proceeds from the different Degrees of Heat in the Bowels of the Earth where it is formed. The Mines of Copper in which this *Orpiment* is found are never without ſome little Gold; and for that Reaſon thoſe that worked in them do not fail to make Separation of it after the ordinary Method.

The yellow *Orpine* is found of different Colours; wherefore it is that the *Dutch* and *Engliſh* ſend it to us in ſuch variety of Forms and Figures; but the beſt and moſt valuable is in thick Pieces, and in handſome bright Scales, gilt as it were with Gold, and which eaſily exfoliate, that is to ſay, which without much ado are ſeparated and divided into thin *Laminæ*, or Scales, gliſtering like Gold.

A ſecond kind of good yellow *Orpine*, is, that which is half yellow, half red; or elſe full of reddiſh Veins: That which is in ſmall Stones, and of a greeniſh yellow, is utterly to be rejected, being nothing but mere Earth; as alſo that which is in Powder.

Orpiment is of ſome Uſe in Medicine, being an Ingredient in ſome Ointments and Plaiſters. It is alſo made much uſe of by Perſons of ſeveral Profeſſions, eſpecially at *Roüen*, to dye their Wood yellow, of which they make Combs, and ſell them for Box. Farriers uſe it upon ſeveral Occaſions; as alſo Painters, when it is ground. It is one of the greateſt Poiſons we have, therefore we ought to take care to whom we ſell it.

It is the reddiſh natural *Orpiment*, which ought to be denominated the *Sandarach* of the *Greeks*, and not the following, as moſt Authors have written; for the red factitious *Orpine* is made of this, as I am going to make appear.

Of Red Orpine, *or* Ratſbane.

Red *Orpine*, which is ordinarily called red *Arſenick*, as Mr. *Morin*, a Phyſician of the Faculty of *Montpellier*, has aſſured me, is made of the yellow *Orpiment*, as it is drawn out of the Mines, by heating it in the Fire till it has acquired a red Colour; and afterwards putting it into a Crucible with Hemp-ſeed Oil, or Sallad Oil, or Nut Oil, evaporating the Oil; and then adding more, and proceeding after the ſame manner, till the *Orpiment* becomes vitrified, and fit to be caſt into Moulds, and ſo made of the form of a Cake, and reduced to a Stone, as we ſee it. This Proceſs ſeeming very feaſible, I was willing to attempt it, but could not ſucceed in it; for the *Orpiment*, inſtead of red, became calcined and white, altogether like Plaiſter: But though I could not do it, yet I will not ſay the Thing cannot be done; Mr. *Morin* being a Man of too much Honour to affirm a thing he did not certainly know to be true.

However this be, *Orpine*, or red *Arſenick*, ought to be choſen in thick heavy Pieces, and as high-coloured as poſſible.

Red *Orpine* is but little made uſe of, except when ground into a fillamot Colour by Painters.

[*Orpiment* is the *Auripigmentum luteum*, *Aldr. Muſ. Met.* 333. *Arſenicum croceum*, *Auripigmentum*, *Charlt. Foſſ.* 49. It is the Ἀρσενικὸν of *Galen*; Ἀρρενικὸν of *Dioſcorides*; the *Narueth* of *Serapion*; and the *Zarnich aſfar* of the *Arabians*. It is an *Arſenical* Juice, or, as ſome affirm, a kind of Gold Ore. It lies in ſquammous foliacious Glebes, like the *Lapis ſpecularis*, and is of three Kinds, yellow, reddiſh, and greeniſh; theſe are all three found in the Veins of Gold, Silver, and Copper Mines. *Orpiment* is ſoluble in Oil, and inflammable, emitting a thin Flame with a great deal of Smoak, ſmelling of Sulphur and Garlick, which, if collected, forms yellowiſh Flowers like Sulphur, and a blood-coloured Maſs remains behind, by ſome called red *Orpiment* or *Realgar*. If the *Orpiment* be kept a long time on the Fire, the whole Maſs ſublimes into a beautiful red Subſtance like a Ruby, leaving only a little Earth behind. The firſt Fumes which come from this will turn Copper white and brittle. *Orpiment*, therefore, conſiſts of the ſame Parts as common Sulphur, with ſome mineral Particles mixed among them. The common *Orpiment*, reddened by Fire, as I have already obſerved, is by ſome called red *Orpiment*; but the genuine red *Orpiment* is the *Arſenicum rubrum Sandaracha vulgo dictum*, *Charlt. Foſſ.* 13. *Sandaracha nativa*, *Kentm.* 18. *Arſenicum rubrum*, *Riſigallum*, *Sandaracha Græcorum*, *Mont. Ex.* 13. and the *Realgar*, *Leſegall*, and *Zarnich-Achmer* of the *Arabians*. It is a Foſſil of the ſame Nature with *Orpiment*, and ſeemingly only different in Colour. It is brought from *China*, caſt into Figures of Pagods: It is no leſs dangerous than *Orpiment*; and though both of them have been recommended by old Phyſicians, and are at preſent taken inwardly in the *Eaſt-Indies*, yet nobody ought to think of giving them here: For the Wine infuſed in Cups of *Realgar*, which is a common Medicine there, has been attended with very fatal Conſequences here; ſo great is the Difference in the human Body in different Climates; even the external Uſe of it here is not abſolutely ſafe, and, as Chymiſtry has furniſhed us with much better Cathereticks, ought to be wholly laid aſide.]

11. *Of natural white* Arſenick.

Pomet. WHITE natural *Arſenick* is a Mineral, pretty much reſembling the common or factitious white *Arſenick*, only it is whiter and more reſplendent, and not ſo ſcaly. This Mineral, or natural white *Arſenick*, is found in Copper Mines; and when Miners meet with it, it is a certain Indication to them that Copper is near. It is found generally in the *Interſtitia* between the true Spar and Clay, and ſometimes it is met with in ſeparate Pieces amongſt the dry Clay. This *Arſenick* is very little known, and little uſed.

Of the white factitious Arſenick.

Though I have taken ſome pains to diſcover what the white *Arſenick* that we ſell is, yet it has not been in my Power to inform myſelf; ſo that I am forced to reſt myſelf contented, and to ſay, with others, that it is a Compoſition of Orpiment and common Salt ſublimed together; which does not ſtand to Reaſon, ſince, if it were ſo, I do not ſee how the *Dutch* could poſſibly ſell it at the Price they do. But not knowing what to determine in this Matter, I will only remark, that it ought to be choſen in thick Pieces, white within and without. Moſt of what we have from *Holland* is white, and rough without, and if you break it, tranſparent like unto Glaſs within, which gave occaſion to the Antients to call it Cryſtalline *Arſenick*, which is in mighty requeſt at this Day with ſome, but by others undervalued and rejected, ſome valuing the rough, and others the cryſtalline.

Arſenick is of ſome ſmall Uſe in Phyſick, to perform ſome Operations, as ſhall be ſeen hereafter; but chiefly made uſe of by Dyers, and in the Country to deſtroy the Rats and other Vermin.

Of the Regulus *of* Arſenick.

Regulus of *Arſenick* is made of *Arſenick*, Potaſhes, and Soap, put into a Crucible, and by the Flame of a Lamp melted and caſt into a great Mortar: It is much milder than the *Arſenick* itſelf. If the Droſs of this *Regulus* is boiled in Water, and the Liquor filtrated, by throwing Vinegar into it, a yellow Powder will be precipitated, which is called the Sulphur of *Arſenick*, and acts with more Violence than the very *Arſenick* itſelf.

Of cauſtick or corroſive Arſenick.

Corroſive *Arſenick* is made of *Arſenick*, Saltpetre, and Sulphur, put into a Mortar and ſet on fire, as in preparing *Crocus metallorum*. When the Noiſe, or Detonation is over, and the Whole is ſufficiently burnt and grown cold, the Maſs is to be pulveriſed, and put a-new into a Crucible to be calcined. If you would have this cauſtick *Arſenick* in Liquor, it is but placing it in a Cellar for a few Days, and it becomes an Oil *per Deliquium*.

One may draw alſo a Butter or corroſive Oil of *Arſenick* with Sublimate. This Oil, or Butter of *Arſenick*, is a very ſtrong Cauſtick, and therefore very proper for making an *Eſcar*. But as all Preparations of *Arſenick* have a pernicious Quality, they are to be uſed with great Caution, and not without the Advice of ſome ſkilful Perſon.

Calcined *Arſenick* may be ſublimed with Sea Salt decrepitated; and with this, as ſome do affirm, they counterfeit the *Venetian* Sublimate, which is what we call *Smyrna* Sublimate; but not being certain of this, I cannot avouch it for Truth, as I before hinted, when treating of Sublimate Corroſive.

Of the Arſenical Load-Stone.

The *Arſenical Magnet* is made of *Poictou* Antimony, Sulphur, and cryſtalline *Arſenick*, powdered together, and put into a proper Veſſel that will bear the Fire, and the Whole may become one tranſparent Maſs, ſuch as the arſenical Magnet ought to be.

It is ſaid this Preparation is a gentle Cauſtick, and performs its Office with great Eaſe. It is an Ingredient in the magnetick Plaiſter of *Angelus de Sala*, deſcribed in Treatiſes of *Pharmacy* by many Authors, ſuch as M. *Charas*, *&c.*

Arſenicum, *ſive Arrenicum*, or *Arſenick*, is a Mineral that is weighty, ſhining, brittle, ſulphureous, and cauſtick, of which there are three Kinds; one yellow, one red, and one white; the firſt is called in *Latin*, *Auripigmentum*, or *Orpiment*; this is a yellow ſhining Stone, taken from the Copper Mines, in Pieces of different Shapes and Sizes. There are ſeveral Sorts, that are diſtinguiſhed by their Colours; for one is of a reſplendent gold Colour, the other of a paler yellow; the beatifulleſt and moſt valued is in large Pieces, of a golden ſhining yellow. They eaſily ſeparate, by little thin Scales that glitter like Gold. The reddiſh yellow Orpiment receives its Colour from the ſubterranean Fires that calcine it: The *Orpin* and the *Realgal* both are uſed by the Painters, after being finely ground on a Porphyry. *Lemery.*

The ſecond ſort of *Arſenick* is called *Sandaracha Græcorum*, *Realgal*, *Reiſgar*, *Reſigalum*, or *Red*

Red Orpiment. Of this *Arſenick* there are two Kinds, the one natural, and the other artificial; the natural is that which is calcined in the Mine by the ſubterranean Fires; the artificial, which is more common, being calcined by the ordinary Fire. You ought to chuſe the *Realgal* that is in largeſt, heavieſt Pieces, ſhining, and of the higheſt Colour: It ſerves the Painters. This Name of *Sandaracha* is given to *red Orpine*, becauſe of the Reſemblance it has in Colour with *Minium* or *Read Lead.*

The third ſort of *Arſenick* is called white *Arſenick*, or ſimple *Arſenick*, by way of Excellence, as being the ſtrongeſt of all. This is a Mineral in large Pieces that are hard, heavy, brittle, very white, ſhining, or cryſtallized without and within. There is the natural and the artificial: The natural is found in Copper Mines, but is ſcarce; the artificial is made with equal Parts of *Orpiment*, and common Salt mixed and ſublimed together. All the Kinds of *Arſenick* are corroſive Poiſons; but the moſt active and dangerous is the white. It does not uſually work violently till half an Hour after it is taken; becauſe the Salts that make the Corroſion are locked up, and naturally fettered in the Sulphurs, which makes it ſome Time before they are at Liberty, when they produce great Pains, Inflammations in the Guts, violent Vomitings, Convulſions, Reſtleſſneſs, a general Loſs of Strength, and at laſt Death, if not prevented. The Remedies proper on this Occaſion, are, melted Fat, Oil, Butter, *&c.* in order to ſheath the Points of the cauſtick Salts; and to evacuate upward and downward; then Milk being taken in good Quantities, ſweetens and corrects the Acrimony of the Poiſon.

[*Arſenick*, properly ſo called, is a Subſtance extracted from *Cobalt*, an Ore found in *Saxony* and *Bohemia*, and other Places; to be deſcribed hereafter. There are three Kinds of *Arſenick*; the white, the yellow, and the red: To make them, the *Cobalt* is put into a calcining, reverberating Furnace; when the Flame has ſet it on Fire, it emits a blue Flame, and a copious thick Smoak with it, which is received upon the Cieling of the Furnace; and thence conveyed into a large Funnel, made of Boards of a hundred Ells in length; ſome of it goes out at the End of this Funnel; but the greater Part ſticks to the Inſide of it, in the Form of a whitiſh Soot, which is taken out about once in ſix Months, and ſerves to make all the three Kinds of *Arſenick*. The white or cryſtalline *Arſenick* is made, by ſubliming this Soot in Iron Veſſels, into an opake Subſtance, ſometimes ſhining within like the *Encauſtum Album*, and ſometimes ſtreaked with red or cryſtalline Veins.

The yellow *Arſenick* is made by ſubliming the ſame Soot with a tenth Part of common Sulphur; the ſublimed Maſs is yellow, like common Sulphur, ſolid, ſhining, not altogether opake, eaſily broken, but not apt to crumble into Powder. It is diſtinguiſhable from Orpiment, by not taking Fire when thrown upon burning Coals, as Orpiment readily does.

And red *Arſenick* is made of the ſame Soot and Sulphur, mixed with a ſmall Quantity of a metallick Subſtance, called the *Spuma* of Copper. The ſublimed Maſs is ſolid, opake, and of a cinnabarine Colour.

The firſt of theſe is the common Ratſbane, or white *Arſenick*; the *Arſenicum Album*, *Ind. Med.* 15. *Arſenicum factitium Album*, *Aldr. Muſ. Met.* 354. *Arſenicum Album ſeu Cryſtallinum*, *Schrod.* 3. 498. The ſecond, or yellow *Arſenick*, the *Arſenicum factitium flavum*, *Aldr. Muſ. Met.* 358. *Arſenicum citrinum ſeu flavum*, *Schrod.* 3. 498. And the laſt, or red *Arſenick*; the *Arſenicum rubrum factitium Officinarum*, *Wood. Att.* 2. P. 1. p. 50.

All theſe kinds of *Arſenick* are very powerful Poiſons, and ought never to be thought of as internal Medicines, though ſome have been ſo daring to preſcribe them. They conſiſt of an acrid Salt, and a kind of mercurial or metallick Subſtance, which diſcovers itſelf when they are diſtilled in a Retort with any fat Subſtance; for, with a ſtrong Fire, the *Arſenick* will be raiſed into the Neck of the Veſſel, in a metallick Form like *Antimony*.

The arſenical *Magnet* is the beſt Preparation of Ratſbane for external Uſe; it has that Name from its ſuppoſed Power of attracting poiſonous or other morbifick Matter, from the Centre of the Body to the Surface. It is a powerful Ripener, and has been ſometimes uſed with Succeſs in Venereal Buboes.]

12. *Of* Sal Gem.

Pomet. SAL *Gem* is a natural Salt, ſo called from its Clearneſs and Tranſparency, like unto a precious Stone, which the *Latins* call *Gemma*. This Salt is found naturally in the Bowels of the Earth, in ſeveral Parts of *Europe*, principally in *Poland* and *Catalonia*. And ſince I have not myſelf been upon the Spot where it is, to confirm the Truth of what I ſay, it may not be amiſs to let you ſee what Dr. *Perou*, of the Faculty of *Montpellier*, has written to me upon the Occaſion, who ſays, That he was in *Poland* in the Month of *March* 1674, with his Eminence Cardinal *Janſon*, who having the Curioſity to take a View of the Salt-pits of *Williſca*, near *Cracow*, had

had a mind to go down into them, which he did on a kind of Litter made for that Purpoſe, attended by divers of his Servants, with Flambeaux in their Hands. Being come to the Bottom, which was very deep, he was received by the ſubterranean Inhabitants, who live there with their whole Families, but look extremely pale, and was preſented by them with Beads and Crucifixes; which Dr. *Perou* afterwards examining by his Taſte, found to be made of a Salt, and to have the ſame Taſte as that which the Druggiſts call *Sal Gemmæ*. The Cardinal had further Curioſity, and was conducted to the Workmen, who with Chiſſels and Hammers get this ſame Salt out of the Rocks, as they do Stones out of a Quarry. There were two Sorts of Salt in theſe Mines, and in the ſame Veins; the one finer, being more pellucid and tranſparent, which theſe Beads, *&c.* were made of, and which they ſeparate from the other; which the *Poles*, and other Northern People, uſe in their Kitchens, and for their Tables. On ſeeing this, Dr. *Perou* was able to determine concerning the Pieces of Workmanſhip that his Eminence had preſented him, that they were made of the pureſt true *Sal Gem*, ſold by the Druggiſts, uſed by the beſt Dyers. As to the Salt of *Catalonia*, hear what Mr. *Tournefort*, who has been upon the Spot, ſays alſo in a Letter to me. "There are four Sorts of Salt in the Mountains of *Cardona*, a pretty conſiderable City in *Catalonia*. The firſt, and moſt common, is a foſſil Salt, white, and pretty much reſembling Sea Salt, only not granulated, but cut out in large Pieces, as we do rough Stones in our Quarries. The ſecond is a Salt of an Iron Grey, or Slate Colour, which differs only from the former, in that it has a little blackiſh Earth mixed with it. The third is a red Salt, nearly of the Colour of Conſerve of Roſes, and differs from the others, in having a Mixture of Bole, or a kind of Ruſt of Iron in it. The fourth is the pureſt of all, and indeed the true *Sal Gem*, as tranſparent and bright as Rock Cryſtal. Theſe ſeveral Sorts of Salts lie in *Strata*, or Beds, in this Mountain, and are very proper for any Uſes of Life, and enter or penetrate into Fleſh, better than Sea Salt, being not ſo fixed, and approaching nearer the Nature of Salt-petre. *Sal Gem* is eaſily wrought into what Figures you pleaſe; and accordingly little Boxes, Beads, and Croſſes, and other the like Things are made of it. But nothing comes up to the Beauty of a certain Cavern in this Mountain, which is adorned on all Sides with moſt admirable Congelations of this Salt.

The People hereabouts affirm, that this Salt grows in its reſpective Abodes, and the Holes that you empty fill again after ſome Time; but this wants Confirmation."

Of the ſeveral Sorts of *Sal Gem* which I have ſpoken of, we deal in none but the beſt, that is, in thick Pieces, is eaſily broken, clear, and tranſparent, and fit for the Dyers Uſe. It is very obſervable of this Salt, that it grows red-hot, like Iron, in the Fire, and crackles there but very little, though on the other Hand it eaſily diſſolves, being expoſed to the Air; yet it may be cleanſed from Dirt, by waſhing and drying it again immediately, without Injury. It is brought us from many Places, but in greateſt Quantities from *Poland*. Mr. *Furetiere* and other Authors ſay it comes from the *Eaſt-Indies*; and that there is a Kingdom called *Danzal*, which ſignifies with them a Country of Salt, which affords yearly a Loading for ſix hundred Camels, which in *Æthiopia* is as ready Money. I do not think it worth while to waſte Time in controverting what *Pliny* and others have obſerved concerning this Salt, when they tell us, that in *Charros*, a Town of *Arabia*, Houſes are built of it; and Water is uſed inſtead of Mortar to bind the Salt Stones; or that the Sea derives its Saltneſs therefrom, *&c.* But I muſt not here forbear to relate, that there are ſuch Vegetations of Salt produced in the Mine, that Mr. *Tournefort* has a Vegetation of foſſil Salt as white as Sugar, almoſt two Feet high, like a Shrub, growing out of a Root; which, without all Doubt, is one of the greateſt Curioſities in all *Europe*.

Sal Gemmeum, *Sal Foſſile*, or *Sal Gem*, is a Mineral, white and cryſtalline Salt, which grows in Form of Stone, or a Rock, in ſeveral Mountains in *Catalonia*, *Poland*, *Perſia*, and the *Indies*. This Salt being broken, is ſhining and tranſparent as Cryſtal. They ſay that certain People of the *Indies*, which inhabit the Countries where it is met with, but rarely, build tranſparent Houſes with *Sal Gem*, which they work like Stone. The Taſte of *Sal Gem* is like that of Sea Salt, but a little more penetrating; they uſe it with their Meat. Out of the Salt Waters of their Springs and Pits, in the *Franche Comté* and *Lorrain*, they make a *Sal Gem*; they evaporate theſe Waters to make the Salt which they uſe in thoſe Countries as we do Sea-ſalt. There is made by Diſtillation, of *Sal Gem* an acid Spirit, altogether like Spirit of common Salt. *Sal Gem* is inciſive, attenuating, penetrating, reſolving, aperitive, laxative, proper in the Cholick, and to open Obſtructions: They ſubſtitute in Compoſitions *Sal Gem*, for *Indian* Salt, called *Sal Indum*, which ſome believe to be a kind of Mineral Salt, and others Sugar. *Lemery.*

[*Sal*

[*Sal Gem* is the *Sal Gemmeus*, *Aldr. Muſ. Met.* 301. *Sal Foſſilis, qui et Sal Gemmæ in Officinis dicitur*, *Worm.* 20. *Sal Foſſilis pellucidus pannonicus, qui dicitur in Officinis Sal Gemmæ*, *Kentm.* 9. It is of ſeveral Colours, white, grey, yellowiſh, reddiſh, and pellucid like Cryſtal; which laſt is the moſt pure, and ought to be eſteemed the true *Sal Gem*, and only uſed in Medicine. It reſembles Cryſtal both in Colour and Brightneſs: There are huge Rocks of it in *Poland*, *Hungary*, *Lithuania*, and other Places; its Virtues are much the ſame with thoſe of Sea Salt.]

13. *Of* Sea-ſalt.

Pomet. SAL *Marine*, or *Sea-ſalt*, is a Cryſtallization made of Sea Water, performed by the Sun, and reduced into Grains of a Cubick Figure, as Monſieur *Des Cartes* has made appear. As to its Origin, ſome will have it to proceed from the abovementioned Foſſil Salt, or *Sal Gemmæ*; but ſince I cannot decide this Affair, it may not be amiſs to tranſcribe here what Monſieur *Lemery* has written concerning it, *p.* 345.

Sea-ſalt is made at *Rochelle* in the Salt Marſhes, which ought to lie a little lower than the Sea, and to be of a Clay Mould to retain the Salt Water that is drawn off into them; ſo that all Places that are contiguous to the Sea, are not fit for the Purpoſe.

When the Seaſon begins to be hot, which uſually happens in the Month of *May*, the Water that has lain in the Marſhes to preſerve them in the Winter, muſt be drained off; then the Sluices or Cams are to be opened, to let in what Quantity of Salt Water you pleaſe, which muſt be contrived to paſs through many different Channels, where it is purified and becomes hot; then it is conveyed into plain level Places, in order for the Salt to cream. This Salt does not ſhoot throughly, but during the exceſſive Heats, the Sun evaporating ſome Part of the Humidity, and the Breezes from the Sea, which happen after the Heats, by their Coolneſs condenſing and cryſtallizing the Salt.

But if it ſhould chance to rain during this Proceſs, only two Hours, there would be no making Salt again in fifteen Days Time, becauſe the Marſh muſt be made clean, and all the old Water taken out, and other let in, in its Place.

Beſides the aforeſaid *Sea-ſalt*, there is the White Salt of *Normandy*, which they make with Water out of a ſort of Mud or Sand that the Sea throws up in the Summer, and upon which the Sun has ſhone ſome Time; and when the Water is ſufficiently impregnated with the Salt, that it will diſſolve no more, which is found by the Swimming of an Egg in it (for every Body knows that Water can be charged but with a determinative Quantity of Salt or Sugar) then the Water is to be ſtrained through Straw; and when it is very clear, to be put on the Fire, and boiled till it comes to a Skin, and afterwards put into Baſkets to reduce it to what we ſee it. The more this Salt is wrought, the whiter, pleaſanter, and better Quality it is of; its conſtant Softneſs is beſides very peculiar to it, as well as its growing the more inſipid the longer it is kept. There are ſtill other ſorts of Salt in *France*, as that of *Lorrain*, which is made with ſalt Water caſt upon hot Plates of Iron; that of *Franche Compté*, and many more, which I forbear to ſpeak of, not having any Commerce in them.

Of the Purification *of* Sea-ſalt.

To purify Salt, it muſt be diſſolved in Water, and the Diſſolution filtrated through Paper; then the Humidity is to be evaporated in an Earthen Pan, and ſo there will remain a very white Salt; but it will be purer and better, if inſtead of evaporating all the Humidity, Part is left, and it be ſet to cryſtallize in a cool Place; for then at the bottom of the Veſſel will be found the fineſt Salt, which may be ſeparated from its Moiſture and dried; then ought Part of the ſalt Liquor to be evaporated again, and having put the Veſſel into a Cellar, let it cryſtallize again; thus muſt you continue to evaporate and cryſtallize, till at laſt all the Humidity be evaporated, becauſe it will not ſhoot into Cryſtals any more; the Salt that is behind being filled with an oleaginous or bituminous Matter that hinders Cryſtallization. If you would make the Salt up into Loaves, like to thoſe of Sugar, it muſt be put into Moulds when it is a little more evaporated than to a Skin, and after it has lain a little to coagulate and ſtiffen, it muſt be put into a Stove to dry it perfectly. This Salt, well purified, differs not in Appearance from double refined Loaf-ſugar.

Decrepitated Salt is a Sea-ſalt calcined by the Fire, which ſerves for many Purpoſes.

Of Spirit *of* Salt.

Spirit of *Salt* is an Amber-coloured Liquor drawn from dry Sea-ſalt, by the Aſſiſtance of dried Potters Earth, a Retort, and Fire. The beſt *Spirit* of *Salt* we have comes generally from *England*, and if it is good it muſt be void of Phlegm, and faithfully and carefully prepared, of a fine yellow Amber Colour, and of a very acid and pungent Taſte. I ſhall not ſpend Time, at preſent, to run through all the Particularities and different ſorts of

Spirit of *Salt*; Monſieur *Lemery* hath done it at large already: Only I muſt obſerve of *Spirit* of *Salt*, that that which is right and good is much in uſe in many Caſes, as in Hernia's, Apoplexies, Scurvy of the Teeth, Gums, *&c.* The way of taking it, is by a few Drops in Water, or any other Vehicle, *ad gratum acorem*; for cleanſing the Teeth, mix it with clarified Honey of Roſes. Thoſe that would have a dulcified Spirit of Salt, to be taken in a greater Quantity, may make it according to *Baſil Valentine*, by mixing Spirit of Wine and Spirit of Salt, equal parts, and digeſting them together in a Sand-heat for three Days.

Sal Marinum, *Sal Commune*, or *Sea Salt*, is a Salt they make from the Sea Water by Evaporation and Cryſtallization. I believe that the Origin or Riſe of that Salt comes from *Sal Gem*, and ſeveral Reaſons confirm me in this Opinion. The firſt is, that Sea-ſalt is altogether like *Sal Gem*, or that Salt made from the Springs in the *Franche Compté*, the Pits of *Lorrain*, and ſeveral ſalt Lakes in *Italy* and *Germany* whence Salt comes, as all the World knows. The ſecond is, that there is no Salt whereof there is ſuch Plenty as of the *Sal Gem*: It fills not only in *Europe* abundance of Mountains of a great and vaſt extent, but it is found in almoſt all the Mines in *Ægypt* and the *Indies*; and there is no doubt but it is at the bottom of Sea, as well as the Earth we live upon, where we meet with Mountains, Rocks, and Mines, full of *Sal Gem*. The third is, that the Naturaliſts have at all Times obſerved, that the Waters which paſs through the Mines of *Sal Gem*, and are loaded with the Salts, flow by an Infinity of Channels into the Sea. The fourth is, that the Sea-ſalt muſt neceſſarily be made in the Land; for if but a little verſed in Chymiſtry, one may know that fixed Salt compoſed of an acid Earth, as the Sea-ſalt is, could never be perfected in the Sea Water; it wants the Earth to imbody the acid Liquor, otherwiſe it would always remain a fluid Salt, and never become ſolid. If we make a chymical *Analyſis* of Sea-ſalt, one may draw from thence a great deal of acid Liquor, which being ſeparated from the Earth, can never gain again its Conſiſtence of Salt. This Argument being clear and demonſtrative, it is likewiſe plain, that the Sea-ſalt muſt receive its Elaboration in the Earth before it is conveyed into the Sea: And as we ſee no Salt ſo plentiful in the Earth as *Sal Gem*, we may well believe it is that which gives a Saltneſs to the Sea; beſides, the Salt which we now take from the Sea is entirely like it in Taſte, in Quality, and in Principles.

Lemery.

But I ſhall propoſe ſome Objections made againſt this: They ſay, that it is difficult to conceive that the Sea, which is ſo large, and of ſo prodigious an Extent, ſhould receive all its Saltneſs from *Sal Gem*; for though there is great Quantities of this Salt in the bowels of the Earth, there does not appear enough to ſalt ſo much Water.

To anſwer this Objection, I ſay, that the Difficulty we apprehend of the *Sal Gem's* being ſufficient to ſalt the Sea, proceeds from this, that we do not ſee the Quantity of Salt Mines, as we do the Extenſion of the Sea Water: But if we conſider that the Earth is full of *Sal Gem*, or the like, in millions of Places, and that it diſcharges itſelf into the Sea perpetually; there is no doubt but we may have room to comprehend that the Earth, in all its Parts, contains Salt enough in it to make the Sea Salt.

Another Objection they bring is, that according to my Argument the Sea ought every Day to encreaſe in Saltneſs, ſince it perpetually receives freſh Salt, which cannot be diſpoſed of otherwiſe. I anſwer, that we cannot perceive any Augmentation of the Sea's Saltneſs; for if there be a great deal of Salt that is brought into it, there is likewiſe a great Conſumption by Evaporation and the Motion of the Waves, that are driven with ſuch Rapidity and Violence, that they volatilize a great Share of Salt that is received in Vapour, as may be ſenſibly perceived by the ſalt Air we breathe in, when upon the Sea, and which contributes much, with the Agitation of the Ship, towards the Provocation to Vomiting. This Salt is driven by the Winds upon the Shore, where it is uſeful to make the Land fertile; and by a perpetual Circulation it is brought to the Sea again.

In *Normandy* they make Sea-ſalt by evaporating Sea Water over the Fire in great leaden Cauldrons to a Dryneſs; there remains a white Salt that is leſs piquant and leſs ſalt than that of *Rochelle*, becauſe of the Evaporation, and perhaps occaſioned from ſome Particles of Lead that are diſſolved in it, which have blunted its Points. This kind of Salt loſes its Strength as it encreaſes in Age.

There is a Salt prepared by Cryſtallization at *Broüage* and *Rochelle*, beſides ſeveral other Parts of the Country where there are Salt Lakes. The *Rochelle* Salt is grey, becauſe of a little Earth that it carries along with it; it is nevertheleſs more penetrating, and ſalter than the white *Normandy* Salt, which is made by Evaporation; but it is not ſo piquant as *Sal Gem*, becauſe of the violent Motion of the Sea Waves, which blunts its finer Points. It may be rendered white as Sugar, by diſſolving in Water, filtrating the Diſſolution, and evaporating to a Dryneſs: But as in this Purification we ſeparate it from a great deal of Earth, which made it weaker,

weaker, it does not by this Means encreaſe its Strength; but on the contrary it is leſs biting, becauſe that the Fire has carried off, or blunted ſeveral of its more ſubtile Points. Sea-ſalt contains a great deal of Acid, a ſmall Quantity of Sulphur and Earth. It is inciſive, penetrating, deſiccative, aperitive, reſolutive. It is uſed in Apoplexies and Convulſions; they mixed it in Baths and Suppoſitories, and being applied hot behind the Neck, it rarefies and diſſipates Catarrhs.

[Alimentary *Salt* is made by the Evaporation of the Water of the Sea, or Salt Springs, Fountains, *&c.* and is of different Colours and Degrees of Purity, according to the different Methods uſed in making ti. The acid *Spirit* drawn from it by a Retort, is, with proper Additions, the only diſſolvent of Gold, and it alſo diſſolves Tin, but will not touch Silver, or Lead. If this *Spirit*, when very pure, be ſaturated with Salt of Tartar, it concretes into a Subſtance reſembling common Sea-ſalt in Taſte, and in the cubical Figure of its Cryſtals; whence it appears that Sea-ſalt is an Acid perfectly ſaturated with an alcaline *Salt*. The *Spirit* is in great Eſteem for promoting the Secretion of Urine, preventing the Stone, curing Dropſies, allaying Thirſt in Fevers, and conquering the Malignity of the Juices in the Scurvy; its Doſe is from three to fifteen Drops.]

14. *Of* Nitre, *or* Salt-petre.

Pomet. SALT-PETRE, which the Chymiſts call the *Dragon*, *Cerberus*, or the *Infernal Salt*, is an artificial or factitious Salt, drawn from ſeveral ſorts of Materials, as from old Stones, whence it has its Name; from Earth, from Aſhes, and alſo from Pigeons Dung. I ſhall not deſcribe here the many different Ways of making Salt-petre, ſeeing they are largely deſcribed in the *Tranſactions* of the Royal Society at *London*; and alſo becauſe it is eaſy to ſee it made in very many Places in *France*, and eſpecially at the Royal Arſenal at *Paris*, where it is made in great Quantities, and where they divide it into half a Dozen Sorts, according as it is more or leſs purified; but the fineſt and beſt is what will hardly diſſolve in Water, which they ſend in Caſks to the Frontiers; and this Salt-petre may be kept almoſt in any Place without Loſs or Decay, but is not expoſed to Sale.

Beſides the Salt-petre of ſeveral ſorts made in *Europe*, we have it brought in large Quanties from the *Eaſt-Indies*, ſometimes rough and unpoliſhed, and at other Times as well purified and refined as any whatever. There are moreover other ſorts of natural Salt-petre, as that which is found ſticking to Rocks and old Walls, in ſmall white Cryſtals, and is what the Antients called *Aphronitrum*. Salt-petre is made alſo in *Ægypt*, with the *Nile* Water, after the ſame Manner as common Salt is made with us at *Broüage* or *Rochelle*; and this Salt-petre, made of the Water of the River *Nile*, is that which was ſo common in *France*, about ſixty Years ago, and which uſed to be ſold at a cheap Rate to the Whiteſters, to blanch or whiten Linen, under the Name of *White Pot-Aſhes*, *Alkali*, *Natrum*, or *Anatrum*.

There is nothing that has more perplexed the Antients, as well as Moderns, than the *Natrum* of *Ægypt*, and that even whilſt it was the commoneſt Thing in the World; for at *Paris* alone, there was conſumed of it more than 2,000,000 Pounds yearly, without reckoning what the Tanners made uſe of to ſalt their Skins and Hides, which was the Reaſon it was prohibited afterwards; and ſince is become ſo ſcarce, that at preſent it is worth its Weight in Silver, and is prohibited to be ſold by Merchants under large Penalties. Some will have this *Natrum* of *Ægypt* to have been a natural *Borax*, or a Salt drawn naturally out of the Earth in grey hard Pieces; ſome, that it was the volatile Salt and Froth of Glaſs-metal taken from the Pots and Furnaces of Glaſs Founders, and that it is either grey, white, brown, or bluiſh, altogether unfit for Vitrification, and fit for nothing but to throw to Sheep or Pigeons; but nothing can be more wide of Truth than this, ſince the true Salt of Glaſs is ſtill ſo common among us, that it is ſold not above a Groat, or five Pence a Pound, and never given to any ſort of Cattle or Beaſts; but uſed chiefly by Potters, and *Dutch*-Ware-makers, to prepare the Sand wherewith they whiten and varniſh their Works. And Light and Darkneſs are not more contrary than theſe two Things; for the Salt of Glaſs is in Cakes or Stones, extremely heavy like Marble, contracting no Moiſture by the Air; whereas the *Ægyptian Natrum* is a white Salt in great cryſtal weighty Maſſes, ſalt and nauſeous to the Taſte; and beſides, eaſily diſſolving into Liquor, when expoſed to the Air, and is of ſome Uſe too in Medicine, being an Ingredient of the *Lap. Crolii*. As for theſe laſt mentioned kinds of Salt-petre, we have but very little of them, and conſequently make uſe of the artificial or factitious, which ought to be made choice of good and well-worked, according to what Degree or Quality it is of; but however, let it be always dry, and as void as poſſible of Salt. The common ſort, when good, muſt be as white, dry, and free from Salt as may be; the refined alſo, the whiter, drier, and more

beautiful, long, and large Cryſtals it is in, the better and more valuable it is.

The Uſe of Salt-petre is very conſiderable, as well upon account of the great Quantities employed in making Gun-powder, as that abundance of Artificers make uſe of it, and that divers chymical Preparations are made thereof. This great Conſumption is the Reaſon why the Sale of it is forbidden in *France* to Grocers and others; and that thoſe in and about *Paris* that uſe any of it, are forced (under pain of Confiſcation and a Fine) to buy it at the *Arſenal*; and even then are not to uſe it to the Purpoſes of ſeaſoning Meat, or the like, though it be proper enough for that End, as Mr. *Lemery* aſſures us.

Nitrum, *Sal Nitrum*, *Sal Petræ*, *Lemery*. *Salt-petre* or *Nitre*, is a Mineral Salt, partly volatile, and partly fixed, which they make from Stones and Earth upon old Walls, Buildings, and the Urine of ſeveral Animals, which has lain a long time on Cellar Floors, or on the Stones; this Salt being formed by the Acid of the Air, which after it has penetrated and rarefied the Stones or Earth, is thus fixed and imbodied.

Salt-petre is ſeparated by Diſſolution, Filtration, and Coagulation; they powder groſly the Stones and Earth that have lain a long time in the Air, or which are taken from old Buildings; they ſteep this in a great deal of hot Water, in order to diſſolve the Salt; they throw this Infuſion upon Aſhes to make a *Lixivium* or Lye; they paſs and re-paſs the ſame Liquor ſeveral times upon the Aſhes; then being clear, they evaporate three or four Parts of the Humidity over a Fire; then they ſet the Liquor to cool and cryſtallize, taking the Cryſtals off to dry, and then evaporate almoſt all the Moiſture away, and cool again as before. They then take off the Salt-petre that contains a great deal of lixiviate Salt, and which is almoſt like Sea-ſalt, only that the lixiviate Salt being Alcali, it changes its Nature, becauſe the Pores are filled by the Acid of the Salt-petre. The Salt-petre made by this firſt Purification is called *Common Salt-petre*; the laſt ſort of which ought not to be mixed with the firſt, becauſe it is almoſt fixed, and conſequently not ſo good.

They purify common Salt-petre by diſſolving it in the Water, filtring the Diſſolution, and evaporating Water over the Fire, till there appear a ſmall Scum upon it; then leaving it to cool, without ſtirring, there will ſhoot fine, long, white, clear, tranſparent Cryſtals; pour off, by Inclination, the Water that ſwims upon it, and take out the Cryſtals to dry, evaporating again part of the remaining Water, and leave it to cool; new Cryſtals will be formed, which dry as before; and, in ſhort, evaporate the reſt of the Liquor, till you find nothing at the Bottom but a little Salt, like Sea-ſalt. Repeat ſeveral times the Purification of your Salt-petre after the ſame Manner, and every time ſeparate ſome of the fixed Salt. The more it is purified, the finer, larger, more ſhining, and tranſparent are the Cryſtals, freed from the fixed Salt, and difficult to melt. There is likewiſe a natural Salt-petre, ſticking againſt Walls and Rocks in little Cryſtals, which is preferable to common Salt-petre, and which the Antients called *Aphro-Nitrum*.

The ordinary Salt-petre ought to be choſen well purified, in long Cryſtals, as hath been ſaid, cooling upon the Tongue, and that caſts out a great Flame, when thrown upon hot Coals. It is aperitive, reſolutive, abates Thirſt, provokes Urine, reſiſts Putrefaction, allays the Heat of the Blood, drives forth the Stone from the Kidney or Bladder. The Doſe is from half a Scruple to a Drachm.

Of melted Salt-petre, *or* Salt *of* Nitre.

What is called *Sal Nitri* is a purified or refined *Salt-petre* melted by the Fire, and reduced into Cakes of three or four Fingers Thickneſs. *Pomet.*

The *Salt* of *Nitre*, made after this manner, is very little in uſe, but inſtead of it, a Preparation called *Cryſtal Mineral*, which is made by caſting a little of the Flowers of Brimſtone upon ſome of the afore-mentioned melted *Salt-petre*, is very much in uſe.

Sal Nitri, or *Salt-petre*, is fixed with Charcoal, and ſaid, when fixed, to have the ſame Properties as Salt of Tartar, and that a red Tincture of it may be drawn with Spirit of Wine, like that of *Sal Tartari*.

Of Spirit *of* Nitre.

From any of the ſorts of Salt-petre, by means of dried Potters Clay, a Retort, and Fire, is drawn a Spirit extremely ſtrong and violent.

Spirit of *Nitre*, when good, is as clear as Rock Water, and ſends forth Fumes continually, if the Bottle is unſtopt. Some raſcally People ſell *Aqua fortis* inſtead of it, therefore Care muſt be taken about it; but it is eaſily diſtinguiſhed from *Spirit* of *Nitre* by what I have ſaid, and by the low Price they ſell it at; whereas true *Spirit* of *Nitre* cannot be afforded under eight Shillings the Pound, or upwards.

We have but little *Spirit* of *Nitre* now from *Holland*, either through the ſmall Occaſion we have

have of it, or rather through the Covetouſneſs of Workmen, that will not afford it, but chuſe to make uſe of *Aqua fortis* inſtead of it; whereby their Manufactures are neither ſo good nor ſo well wrought.

Spirit of *Nitre*, being a ſtrong Corroſive, is very ſeldom uſed internally in its natural State, but is dulcified, or ſoftened, by adding as much Spirit of Wine to it; and this is obſervable in this Mixture, that though it requires Heat, it wants no Fire to make it; for as ſoon as thoſe two Spirits come together, there ariſes as great an Ebullition and Bubbling, as if they were upon a good Fire. In performing this Operation, Care muſt be taken to avoid the Fumes and Vapours, which are very hurtful and offenſive. When this Mixture is become clear, it may be taken a few Drops of it in any proper Vehicle, and is ſaid to be very good in flatulent and nephritick Cholicks. *Sal Armoniack* diſſolved in this Spirit makes the *Aqua Regia*, or *Royal Water*, ſo called from its Capacity of diſſolving Gold, the King of Metals.

Of Aqua fortis.

Aqua fortis is a Spirit drawn from Salt-petre, and *German* or *Engliſh* Vitriol calcined to Whiteneſs, by means of ſome dried Earth or Clay, a Retort, and Fire.

Aqua fortis, ſo called from its Strength, though it be not ſo violent as Spirit of Nitre, is very much in uſe with a great many ſorts of Workmen, ſuch as Coiners, Mint-men, Goldſmiths, Engravers, Cutlers, and abundance of others, as well as by thoſe who dye in grain.

The beſt *Aqua fortis* we have comes from *Holland*; not but that it can be made as good in *France*; but that it may be ſold a little the cheaper, it is not above half deflegmated with us, and conſequently not above half ſo ſtrong as it ſhould be.

With *Aqua fortis* Water and Clippings or Filings of Copper, is made what they call the *Aqua ſecunda*: It is a Water, of a blue Colour, which Farriers make uſe of; they alſo uſe that which the Workers in Silver make; or, to have it a readier way, they buy Phlegm of Vitriol, or Spirit of Vitriol, that is made of *Aqua fortis*, and give them the Name of *Aqua ſecunda*.

There is no fear of counterfeiting *Aqua fortis*, or ſelling any other Spirit for it, there being none that can be afforded at a lower Price. So that when this Water has no Phlegm in it, to be ſure it is good and genuine.

Of Cryſtal Mineral.

Cryſtal Mineral, which ſome call *Sal Anodynum*, or *Mineralis Lapis*, and commonly *Sal Prunellæ*, is a refined Salt-petre melted in a clean Iron Pot, throwing a ſmall matter of Flowers of Sulphur into it. When it is thus in Fuſion, the Salt-petre being thoroughly melted, and the Sulphur conſumed, let it ſtand a-while, and then take off the Scum with an Iron Spoon, and pour out the Salt-petre into an Iron Skillet or Porringer, to make it thin, after the Manner as we ſee it. We ſend to *Holland* for our beſt and whiteſt *Cryſtal Mineral*; but it being in little thick Cakes, we have but ſmall Sale or Demand for it, ſince it is only fit to be ſold by Weight, and to thoſe that make uſe of it themſelves.

Cryſtal Mineral ought to be choſen very white, new made, and thin; and when it is to be retailed, let it be as dry as you can. That which is made with purified Salt-petre, is to be preferred to that which is made with the common or ordinary Salt-petre; and this is eaſily known by its Whiteneſs, and its keeping well. It is a Miſtake to believe, as an Author of late obſerves, that thoſe who hawk *Cryſtal Mineral* about the Streets, make it up with Alum; for it is impoſſible to make Alum and Salt-petre unite, the Alum becoming immediately a Scum when it is thrown into the Salt-petre, as it does with Sugar, though it is pretended to be made uſe of to whiten that: So that thoſe that make *Cryſtal Mineral* for Cheapneſs, only uſe the common Salt-petre; for it is but melting it twice, and it will be as white as the other, and the only Difference will be in keeping; but a ſhort time ſhews it, which they to their Coſt know that buy of thoſe Strollers. Care muſt be taken not to wrap it in Paper, which being porous attracts Humidity, and moiſtens the *Cryſtal Mineral*, and renders it unſaleable. By the Experience I have had, the beſt Aſſurance you can have that it is good, will be to make it yourſelf.

Cryſtal Mineral is very much in uſe in Phyſick; it has acquired the Name of *Sal Prunellæ*, it is ſaid, from its ſpecifick Quality of curing Inflammations of the Throat, and the Quinſey, which ſome call *Pruna*, or *Prunella*; and, according to others, from the eſſential Salt which is drawn from the *Prunelle*, or *Sloe*, reſembling *Cryſtal Mineral*; or becauſe it is much made uſe of in inflammatory Fevers, compared to a Fire-coal, which the *Latins* call *Pruna*; or, laſtly, and that moſt probably, becauſe the *Germans* gave it, in making, the Figure of a Plumb.

Of Sal Polychreſtum.

The *Sal Polychreſtum*, ſo called from its many and great Virtues, is made of the fineſt Salt-petre and *Holland* Sulphur powdered together, and by means

means of a gentle Fire wrought into a very white light Salt.

This way of making it is very different from that of all Authors who have treated of it, who recommend a Crucible made red-hot by keeping a Fire about it for three or four Hours. I will not ſay this Proceſs is not good; but the Impoſſibility there is of ſelling it when it is heavy, and of divers Colours, is the Reaſon why it cannot be diſpoſed of when made thus: And I believe my Method will be preferred, ſince with two or three lighted Charcoals, and in the ſpace of one Hour, a Salt may be made both white, bright, and well qualified; alſo more ſaleable, and that coſts leſs. And ſince I diſapprove the Ways of making the *Sal Polychreſtum* hitherto uſed, it will not be amiſs to declare the manner of ſucceeding beſt in it. Take therefore equal Parts of Sulphur and fine Salt-petre, and having heated a Crucible, not glazed in the Inſide, and placed it upon five or ſix lighted Charcoals, ſo that the bottom be red-hot, throw into it a Spoonful of the Mixture of Salt-petre and Sulphur; and when the Detonation is over, and the Sulphur and Salt-petre are ſufficiently burnt, another Spoonful in like manner muſt be thrown in, and ſo till all is calcined; then take the Pot off the Fire, and after it is cool break it, and therein you will find a *Sal Polychreſtum*, both white, light, and very ſaleable. And what I ſay ſtands to Reaſon, ſince this Salt cannot be made heavy, and in a Maſs, but by the great Violence and Strength of the Fire. They that would be ſtill more curious, and would have a *Sal Polychreſtum* purer and more beautiful, that is to ſay, cryſtallized, let them diſſolve it in Water; and after having filtrated, and evaporated to a Pellicle, it muſt be put in a Cellar, or ſome other cool Place, to ſhoot into Cryſtals; which, when dried, ought to be in ſmall Plates, moderately thick and brilliant, or ſhining like Diamonds, and of a clear White, and ſolid, that is, hard to break; for that which is eaſily reduced to Powder, is not well made.

This *Sal Polychreſtum* cryſtallized, is preferable to the firſt ſort, how well ſoever made, being free from that ungrateful Taſte and evil Quality which the Sulphur, that is inſeparable from the other by any other means, gives it.

In ſelling of this Salt there are great Cheats and Abuſes committed; inſtead of it, many who trade in it, expoſe to ſale only the Salt-petre itſelf melted and caſt into a Maſs: But it is eaſy to diſcover the Impoſture, for as much as the true *Sal Polycreſt* neither cracks nor flaſhes in the Fire, but will become red-hot; whereas the Counterfeit flames and crackles as Salt-petre itſelf, and is alſo to be known by its exceeding Whiteneſs, and the cheap Rate it is ſold at.

Sal Polycreſt, as it comes out of the Crucible, or cryſtallized, was ſome Years ſince much in vogue in Phyſick; but at preſent being out of faſhion (as there is a Mode in Medicine, as well as in every thing beſides) is now ſeldom made uſe of, loſing, as it were, its Virtue with the Opinion of the World. To ſay the Truth, thoſe of our Nation love nothing but what is new.

This Salt has had the Appellation of fuſible Sulphur or fixed Nitre given it, as *Penotus* deſcribes at large, and which ſhews it to be no new Compoſition, ſince it has been known a long time by the Name of Fixed Nitre. It is aperitive, provokes Urine, and is good in Obſtructions of the Liver, Spleen, and Meſentery; the Doſe is from a Drachm to two Drachms.

Of the Antifebrifick Salt.

The *Sal Antifebrilis*, or Salt againſt Fevers, is made of the fineſt Salt-petre, Flowers of Sulphur, and diſtilled Urine, all mixed together, proceeding after the Manner directed in Treatiſes of Chymiſtry, whither the Reader may have Recourſe. This *Antifebrifick Salt* is eſteemed an excellent Remedy for Fevers, taken at the Beginning of the Fit, or upon the Return of it, from eight Grains to half a Drachm in any agreeable Vehicle.

Of Nitre Vitriolated.

Vitriolated Nitre is made of Salt of Nitre diſſolved in Spirit of Vitriol; to which are attributed the ſame Qualities as to the vitriolated Tartar. It ought to be white, light, and in ſmall *Striæ* or Needles, like *Sal Saturni*.

There is alſo a ſort of Butter prepared of Nitre, by the means of Tartar; the Proceſs whereof may be ſeen in Monſieur *Charas*'s Chymiſtry, *p.* 853.

[The *Nitre* or *Natrum* of the Antients was entirely different from ours; and in all probability, our Salt-petre was wholly unknown to them, as their Nitre is at this Time almoſt unknown to us.

The *Nitre* of the Antients was an acrid alkaline Salt, found in *Egypt* and other Places, which made an Effervеſcence with Acids, was uſed in cleanſing Cloaths, and making Glaſs, as alſo in Baths and Waſhes: It is evident that this was very different from our Salt-petre, and it is now in a manner unknown among us, though the Antients uſed it very much, both in Medicine and the common Occaſions of Life; and even at this Time in the Fields of the *Leſſer Aſia*, near *Smyrna* and *Epheſus*,

Epheſus, the Earth riſes of itſelf in the Spring and Autumn into ſmall Hillocks like Mole-hills; from which the Inhabitants prepare a Lye for waſhing of Cloaths, and make a Soap from the Salt they get from it.

The *Nitre* of the Moderns, or Salt-petre, *Nitrum*, *Aldr. Muſ. Met.* 321. *Worm.* 21. *Sal Nitrum*, *Sal Petræ*, *Mont. Ex.* 8. is a white cryſtalline Subſtance, of an acrid bitter Taſte, with a certain Senſation of Cold, which concretes into long, ſmall, and equally thick priſmatick Cryſtals of ſix Sides, the outermoſt of which end in Points like Pyramids. It is eaſily ſoluble in Water, and melts by Fire without Deflagration. It is brought to us principally from the *Eaſt-Indies*, and is procured from Earth that has imbibed the Urine or Dung of Animals; and may be made artificially, by mixing Earth with Pidgeons or other Dung. It is alſo ſometimes found naturally on old Walls, *&c.* not much expoſed to Wet. All Salt-petre contains ſome Quantity of a kind of Sea-ſalt originally; and in the getting Salt-petre from the Earth that contains it, when they have boiled it in Water they let the clear Liquor ſtand to be quite cold before they ſet it to cryſtallize for the Salt-petre; and in the Veſſels it has ſtood to cool in, which they call Settling Tubs, they find a Salt of the Sea-ſalt kind ſticking to the Sides and Bottom; this they keep by itſelf, and call it Salt-petre-ſalt; and the Liquor, poured off into other Veſſels called Shooting Trays, affords, by Cryſtallization, the Salt-petre.

15. *Of* Natural Borace.

THE *Natural Borace*, or *Tincar*, to which the Antients are ſuppoſed to have given the Name of *Chryſocolla*, is a Mineral Salt of the figure of the common *Sal Gem*, found in the Bowels of the Earth in many Places of *Perſia*; and at the bottom of a Torrent, among the Mountains of *Purbeth*, in the Country of *Radzioribron*, that reaches to the Confines of the *White Tartary*. When this Mineral is taken out of the Earth, it is expoſed to the Air, that it may contract a ſort of fat reddiſh Ruſt, which nouriſhes and preſerves it from being calcined, as it were by the Influence of the Weather; and when it is as it ought to be, the *Perſians* carry it for the moſt Part to a Palace called *Amadabat*, from whence the *Engliſh*, *Dutch*, and we, have it; and this is what we call *Natural Borace*, or the unpoliſhed, rough, or fat *Borace*, which ſome Workmen employ for the ſame Uſes as they do the refined.

We have another ſort of *Natural Borace* brought us, which differs only from the former, in that it is a little drier, and of a grey Colour, which proceeds only from its having been longer expoſed to the Air, whereby the reddiſh fat Subſtance, wherewith it is covered, becomes dry, and like *Engliſh* Copperas that has lain a great while above Ground. Thoſe that have Occaſion for one ſort or the other of this *Natural Borace*, muſt take care that it be not mixed with Stones, or other ſuch Refuſe, as it frequently happens to be. The *Venetians* and *Dutch* make that which they ſend us under the Appellation of Refined *Borace*.

The Antients were not out when they ſaid there was a greeniſh *Natural Borace*, no more than *Agricola*, who rightly enough obſerves, that he had ſeen a foſſil Nitre, ſolid and hard, like a Stone, of which the *Venetian Borace* was made: But the ſame Author is very much miſtaken, when he ſays, that then no *Borace* was in uſe but the factitious or artificial, made of the Urine of Boys that drank Wine; Braſs Ruſt, and ſometimes Nitre beaten together in a Bell-metal Mortar to the Conſiſtence of an Ointment; which is far from Truth, ſince the *Borace* he means, and which we now ſell, is only the fat *Borace* refined and ſhot into Cryſtals.

Borax, *Chryſocolla*, *Capiſtrum Auri*, *Auricolla*, or *Gold Flux Powder*, is a Mineral Salt that has the Colour and Tranſparency of *Sal Gem*, but a great deal more Pungency; it is found in certain Mines of *Perſia*, and ſeveral other Places: When they take it from the Earth, they expoſe it to the Air, where it becomes greaſy and reddiſh on its Superficies. This is that which is called *Fat Borace*. This Fat covers the Salts, that they cannot be penetrated and diſſolved, or melted by the Air. There is likewiſe found a grey or greeniſh *Borace*, which Colours proceed from the various Impreſſions, that the Air being hotter or colder makes upon the Salt, by opening it more or leſs.

Lemery.

The *Venetians* and *Dutch* puriſy or refine their *Borace* as they do other Salts, by diſſolving in Water, filtrating the Diſſolution, leaving it afterwards to evaporate, and ſetting it to cryſtallize. They bring us this *Borace* under the Name of *Borace* refined. Chuſe your *Borace* in fine white Pieces, neat, cryſtallized, and tranſparent. One may, by refining, ſeparate from *Borace* a vitriolick Matter, which gives it a great deal of Sharpneſs; for which Reaſon the refined *Borace* is much ſofter than the natural, and ought to be preferred in Medicine: It is inciſive and penetrating, proper to open the Obſtructions of the Glands of the Meſentery, and diſſolve the *Schirrus* of the Liver and Spleen; the Doſe is from four Grains to twenty. They alſo uſe it externally to conſume the Excreſcences of Fleſh. They may draw a Spirit from *Borace* like that of Alum, by a very ſtrong Fire; it is aperitive, and very like Spirit of Salt: It is

called

called *Chryſocolla*, *Gluten Auri*, *Capiſtrum Auri*, and *Auri colla*, becauſe the Goldſmiths uſe it to flux and ſolder Gold with.

Of Refined Borace.

Pomet. As *Natural Borace* is found of different Colours, ſometimes greeniſh, and other whiles yellowiſh,; the *Venetians*, who were the firſt that brought Borace into Vogue, finding it could not be well made uſe of with its natural Fatneſs and Unctuoſity, conſidered of a way of purifying of it, by diſſolving it in Water; then filtrating and cryſtallizing it, in order to which they made uſe of Cotton Matches, upon which the *Borace* is cryſtallized, after the ſame Manner as Sugar-candy or Verdigriſe on Sticks or Splinters of Wood.

As for others that do not uſe Cotton, they reduce the *Borace* into little Stones of the Form and Figure of the Tag of a Lace, or Point; but as this ſort of *Borace* had a greeniſh Caſt, the *Dutch* have taken it to Taſk, and made it whiter and more vendible, and reduced it into larger Pieces, which is what we ſell at this Day.

Borace, whether it be the *Venetian*, or that of *Holland*, ought to be choſen clear and tranſparent, of Taſte almoſt inſipid, taking Care that it be not mixed with *Engliſh* Alum, which is difficult enough to diſcover, if the Alum has been ſoaked in Water, and then expoſed a few Days to the Air, to give it the natural rough Appearance of *Borace*; but this Cheat may be eaſily found out, if you will put it to the Teſt: For, firſt, it will by no means ſolder Metals; nor, being put upon lighted Charcoal, will it ſwell and heave like *Borace*.

Refined Borace is much in Uſe by a great many ſorts of Workmen, and ſerves as well to ſolder, as to melt and diſſolve Metals: Some uſe it alſo in *Fucus's*. It is of ſome Uſe too in Medicine, as it is inciſive and penetrating, proper to open Obſtructions of the Liver, Spleen, and Meſentery, and to promote the *Menſes*; the Doſe is from five Grains to twenty.

[*Borace* is the *Borax*, *Charlt. Foſſ.* 9. *Dougl. Ind.* 18. *Nitrum factitium*, *Arabice Borax*, *Worm.* 21. *Nitrum unde Borax excoquitur*, *Aldr. Muſ. Met.* 324. Both the native and refined are common in the Shops; the native is brought to us in Pieces about the Bigneſs of a Walnut, foul and earthy, and of a dark green Colour, and greaſy. It is had from *Perſia* and other Places, where, in Copper Mines, they find a greeniſh turbid Water, which they evaporate to a proper Conſiſtence, and afterwards make to a Paſte, with the Slime and Mud of the Springs it runs from, and ſome Quantity of Animal Fat. This Paſte they bury for ſome Months in the Earth, after which, opening the Pits, they find the Water concreted into knobby Subſtances, which dug out of the Pits, with the fat Earth about them, are the *Native Borax*.

The *Refined Borax*, which is what we moſt commonly ſell, is the native Kind purified by a *Lixivium* of Quick-lime. We formerly had it from *Venice*; but now the Trade of refining it is almoſt entirely in the Hands of the *Dutch*.

This is the *Borax* of the Shops at preſent; but it is evident, that it is very different from the *Chryſocolla* of *Dioſcorides* and *Galen*, which was a green metallick Subſtance, found ſometimes like a looſe Sand, and ſometimes adhering to other metalline Matters, and was a kind of native Verdigriſe, not ſoluble in Water, which, taken inwardly, always proved Emetick, and ſometimes poiſonous. They had alſo, beſide this native *Chryſocolla*, two factitious Kinds, the *Herbacea* and *Santerina*: The *Herbacea* was made of the native *Chryſocalla*, bruiſed, calcined, and macerated in Vinegar, tinged with *Luteola*, or Dyers Weed; and the *Santerina*, of *Cyprian* Verdigriſe and Urine, with the Addition of *Nitre*. Theſe, it is plain, muſt alſo be very different from our *Borax*; but whether the *Tincar* of the *Arabians* differs from it or not, is not eaſy to determine, as none of it comes to our Hands.

Our *Borax* is a fixed alcaline Salt, ſomething of the Nature of Salt of Tartar; but differing from it in this, that it unites with Acids without Tumult. It yields nothing in Diſtillation but an inſipid Phlegm: A Solution of it turns Syrup of Violets green; and a Solution of corroſive Sublimate to a Saffron Colour.]

16. *Of* Alum.

Pomet. *ALUM* is a foſſil Salt drawn from Stones of different Bigneſs and Colour, in ſeveral Parts of *Europe*, eſpecially in *Italy*, *England*, and in *France*. After Alum Stone is taken out of its Bed or Quarry, as you take other Stones, it is burnt in a Kiln made on Purpoſe as you do for Lime, or the like; and when it is calcined, its Salt, which is the Alum, is drawn out with Water, proceeding after the ſame Manner as in making Salt-petre. A certain Perſon in the World, in the Preſence of a Man of Worth, maintained, that Urine was made uſe of inſtead of Water in drawing this Salt; but ſince his Authority is not ſufficient to make him credited, I chuſe rather to reſt ſatisfied with what *Matthiolus*, upon *Dioſcorides*, has written of it, who having been an Eye-witneſs of the Fact, has given us an ample Deſcri-

Deſcription of it in his Book, *Page* 733. to which my Reader may have Recourſe.

We commonly ſell ſix ſorts of Alum, to wit, the Plumous Alum, or Earth Flax; the *Roman*, *Engliſh*, *Liege*, Burnt Alum, and the Sugar Alum. As for the Round, Liquid, and Black Alum I know nothing of them.

Of Plumous Alum.

Pomet. *Plumous Alum* is a Mineral found in the *Negropont*, which ſome will have to be the Stone which the Antients called *Lapis Amiantus*; but as I am not ſure of the Thing, I will content myſelf to ſay, that the *Plumous Alum* which we ſell, is a ſort of thready Stone, of divers Colours, but moſt commonly of a greeniſh white, in Figure pretty much reſembling *Venice Talc*, excepting only that it is not ſo green nor ſhining; and inſtead of parting into Scales, this riſes in white ſoft Threads or Filaments, like the Feathers of a Quill, from whence comes its Name; and accordingly moſt Part of the Plumous or Feather Alum one meets with, is almoſt ever in ſmall Fibres, and but little in Stone, proper to ſpin and make the perpetual Matches. This *Plumous Alum*, to which ſome have given the Name of that of *Sicily*, is of very little Uſe in Medicine, and at preſent it is almoſt of no Uſe, ſince the Secret of drawing it out into Threads, or ſpinning it, has been loſt. The Cloth made with this ſort of Alum when dirty, to be made clean, needed only to be thrown into the Fire, and it would come out thence as white as Snow. And with this ſort of Cloth did the antient *Romans* preſerve the Aſhes of their Emperors, and ſeparate them from thoſe of the aromatick Wood, wherewith their Bodies were burnt. Some People, at this Day, alſo make uſe of this *Plume Alum*, inſtead of Cotton, to make Matches; and to that End it ought to be in long Wicks, and as ſoft as poſſible. This *Alum* is a ſtrong Corroſive, or Eſcharotick; for what Part ſoever of the Body it touches, it cauſes Whelks and Bliſters, and a moſt intolerable *Pruritus* or Itch, which is to be appeaſed only, that I know of, by anointing the Part with Oil of Olives. Beſides this *Plume Alum*, we begin to ſell a certain Stone Mineral, ponderous, white, woolly, and, in a word, wholly like to *Plumous Alum*, and incombuſtible alſo, wherefore it has obtained the Name of *Aſbeſtos*, which in *Greek* ſignifies incombuſtible; and by Corruption we call it vulgarly *Albeſtes*.

This Stone is found in many Places in *France*, more eſpecially in the County of *Foyx* in *Gaſcoign*, where there are Quarries out of which Stones of a ſurprizing Magnitude are taken, and from which Cotton Threads may be drawn fit to make Cloth, and to endure whitening or cleanſing in the Fire, like that of Feather *Alum* already ſpoken of. And beſides this, there are found in *France* (particularly about the *Pyrenees* in the Valley of *Campan*, near the Stone Quarries, about three Leagues from *Grippa*) certain Plants about two Feet high, which have Stalks all as it were ſilvered over, their Leaves like thoſe of a Nettle, excepting only that they are white underneath, of a dark green at Top, and reſembling Shagreen. This white Stalk ſteeped in Water, like Hemp, may be run into a long and round ſort of Flax or Tow, of which good Cloth may be made, that will reſiſt the Fire like *Plumous Alum*, only it will not whiten ſo well. And it is to be remarked, that when this Flax is put into the Fire, it immediately grows red, but black if applied to a Candle. Perhaps what I ſay may not eaſily meet with Credit; but ſince I have ſome of it in my Poſſeſſion to ſhew to thoſe who would not believe, and the Perſon who has collected it is ſtill in Being, and a Man of Reputation and Fidelity, I thought it might not be amiſs to advertiſe the Publick, that *Plumous Alum*, and what we call the *Aſbeſtos*, are not the only Drugs in Nature capable of enduring or reſiſting the Fire.

This incombuſtible Plant might be called *Aſbeſtos*, and the Tow that comes of it *Incombuſtible Flax*, being long, large, and ſoft, like Flax.

Alumen Plumeum, ſive Alumen Sciſſile, or *Feathered Alum*, is a kind of ſtringy Talc, like the Feathers of a Quill, whence they call it *Feathered Alum*. It is very ſoft to the Touch, of a white, greeniſh, ſhining Colour, is produced in the Mines of *Negropont*. It will neither flame nor conſume in the Fire. Some Alchymiſts uſe it for Wicks in their Lamps; it is called *Sciſſile*, becauſe it is eaſy to break and divide. *Lemery.*

Of Alum *of* Rome.

Roman Alum, which we alſo call Alum of *Civita Vecchia*, becauſe great Quantities are made in the Neighbourhood of that City, is a Stone Alum of a middle Size, red without, and within, clear and tranſparent, and of a diſagreeable ſtyptick Taſte. This Alum is of a reddiſh Colour; the Mine from whence it is drawn being of the ſame. *Pomet.*

Chuſe the *Roman* Alum that is reddiſh throughout, in the Inſide as well as the Outſide, becauſe there are ſome who colour the *Engliſh* and *Liege* Alum of a dark Red, but the Cheat is eaſily diſcovered; for if you find it not as red within as without, it is a Sign it is counterfeited. It ought to be as free of ſmall or broken Pieces as poſſible;

which yet is no Diſadvantage to thoſe who uſe it, provided the Alum be pure and genuine, but only to ſuch as retail it.

Roman Alum is much in Uſe with Dyers, Tanners, and thoſe that make counterfeit Pearl, but it ought to be very good for all of them.

Of Engliſh Alum.

Engliſh Alum, to which the Antients have given the Name of Roch or Rock Alum, White and Glaſs Alum, is an Alum clear and tranſparent as Cryſtal, which is ſent us from *England* in Pieces of different Figure and Bigneſs; ſince ſometimes it is to be met with in Lumps as big as a Man's Body, ſometimes clear and white as Cryſtal, and at other Times blackiſh and moiſt: In fine, the Glaſs Alum is more or leſs beautiful, according as it has been more or leſs purified.

As this Alum is much made uſe of by ſeveral ſorts of Trades, particularly by Mint-men or Coiners, and Dyers; as alſo for many Preparations in Phyſick, Care ought to be taken in the Choice of it, that it be white, clear, and tranſparent, as dry and as free from any ſort of Filth as may be: Alſo Care muſt be had that it be not *Liege* or *Meziere* Alum, which is greaſier and fatter than that of *England*, and not ſo fit for Dyers Uſe, and which they never make uſe of but for want of the true *Engliſh*. We had not long ſince a greeniſh ſort of Alum, like Salt-petre, drawn from a Stone taken out of the Mines in the Neighbourhood of *Soiſſons* in *Picardy*; but as this Alum is of no Account, as well by reaſon of its ill Looks, as becauſe we continue ignorant of its Virtues, I ſhall ſay no more concerning it. From the *Engliſh* Alum is diſtilled a clear and acid Water, which we call Alum Water, and which is uſed as an Ophthalmick. After the Phlegm comes over an acid Spirit, uſeful in Fevers, whether continual or intermitting; and alſo good againſt ſmall Ulcers or Excoriations in the Mouth, from four to eight Drops; that which remains in the Veſſel being a light white Subſtance or Maſs, is what we call Burnt Alum: But as this Water and Spirit of Alum are in little Requeſt, thoſe that have Occaſion for Burnt Alum do not trouble themſelves about diſtilling, but only put *Engliſh* Alum into a Pot, which they place in the midſt of a good Fire; and when the Alum is become very light and white, they take it out and keep it for Uſe.

Calcined or Burnt Alum ought to be light and friable, that is, eaſily reduced to Powder; ſo that Care muſt be taken that it be not ſuch as has been paſſed through a Silk Searce or Sieve, which is put into a Bag tied cloſe, to make it into Stones or Lumps; but this Cheat is eaſily diſcovered, the counterfeit Alum being heavy, extremely white, more like Paint or Plaiſter than any thing elſe, and of a ſtyptick Taſte.

True Burnt Alum is eſteemed a very good Eſcharotick to eat away proud luxuriant Fleſh. Perſons of Diſtinction commonly wear it in little Bags under their Armpits and their Feet, to prevent ſweating, but then it ought to be extremely fine.

Of Saccharine, *or* Sugar-like Alum.

Saccharine Alum, becauſe it reſembles Sugar, is made of *Engliſh* Alum, Roſe-water, and Whites of Eggs, boiled together till it is ſtiff; and this Alum ſo boiled, and reduced into a Paſte, what Figure or Form you pleaſe may be given to it; and when it is cold, it becomes as hard as a Stone.

Some make this Sugar Alum enter into the Compoſition of their *Fucus's*.

There are, moreover, other ſorts of Alum, namely, that white tranſparent Stone, in every particular almoſt like Rock Cryſtal, to which the Name of *Scayolle Alum* is given; the *Lapis Specularis*, which is found in the Quarries of *Paſſy*, and which, after it is calcined, is of a very beautiful White. Not long ſince, great Quantities of this were found in the clayey Earth of *Paſſy*. Others make uſe of another ſort, which we call *Gip* or *Plaiſter*. Pot-aſhes alſo have obtained the Name of *Alumen catinum*, as is obſerved in its Place.

Some ſay the Name of *Alum* is derived from the *Latin Lumen*, which ſignifies Light.

Alumen, or *Alum*, is an acid mineral Salt, made from a kind of Stones of different Sizes and Colours, which are found in the Quarries of *France*, *Italy*, and *England*. They calcine this Stone, and then make Alum of it by Solutions, Filtrations, and Coagulations, as they make Salt-petre. There are ſeveral ſorts of it, as *Roman Alum*, *Roch Alum*, and *Sugar Alum*. *Lemery.*

The *Roman Alum*, or that of *Civita Vecchia*, called *Alumen Romanum*, is a Salt in Stones of a moderate ſize, that are reddiſh within, of an acid ſtyptick Taſte; they uſe it outwardly for ſtopping of Blood, and inwardly in Gargariſms for Inflammations of the Throat, and to clean the Teeth; they dry it or calcine it upon the Fire to free it from its Phlegm, then it is called *Burnt Alum*: This is an Eſcharotick, and ſerves to eat away proud Fleſh, diſſolve Excreſcences, and open Ulcers and Shankers.

Roch Alum, White or *Engliſh Alum*, called *Alumen Rupeum*, or *Rock Alum*, is a Salt in large great Lumps,

Lumps, that are clear, white, and tranſparent as Cryſtal, which is brought from *England*. This *Alum* has the Virtues of the former, but is not ſo ſtrong: The Dyers, *&c.* uſe it. The *Alum* called *Alumen Saccharinum*, or *Sugar Alum*, is a Compoſition made with Roch Alum, Whites of Eggs, and Roſe-water, boiled together to the Conſiſtence of a Paſte, and formed, while hot, into little Cakes like Sugar-cakes, whence it takes its Name. *Alumen Catinum*, or *Diſh Alum*, becauſe it is made in a Platter or Diſh, is what we call *Pot-aſhes*, or the *Aſhes* of *Kali* calcined, or ſome other Aſhes, or *Alkali Salt* made from Vegetables. They call it *Catinum*, becauſe they uſed to dry it in a Plate or Diſh.

[*Alum* is a Salt either natural or artificial; the natural *Alum* of the Antients was either liquid or ſolid. Of the liquid, there are two Kinds mentioned by the Antients, one pure, and the other impure. The firſt was very common, and was a ſmooth milky Subſtance, always moiſt; the other rough and foul. The ſolid they diſtinguiſhed according to its Figure into fiſſile and round: The fiſſile was either in Form of a compact uniform Glebe, or divided into Filaments; the round of a more looſe Texture, with the Appearance of Bubbles upon it, or full of Holes like a Spunge; or elſe conſiſting of *Strata*, looſely laid on one another.

The articificial or factitious *Alums* are diſtinguiſhed by the Countries where they are made. They were wholly unknown to the Antients, though with us they are the only kinds in Uſe.

The kinds of *Alum*, kept at preſent in the Shops, are three.

1. The Common *Alum*, *Alumen rupeum candidum et pellucidum*, *Ald. Muſ. Met.* 324. *Alumen rupeum ſive Chryſtallinum*, *Ind. Med.* 7. This is procured with us from a Species of Stone or Ore burnt, and afterwards boiled with the Addition of Urine and *Kali*, or other Sea Plants. It is got in other Places by the Evaporation of Mineral Waters; and in ſome others is found in natural Veins in the Earth.

2. The *Roch Alum*, the *Alumen Romanum ſive rubrum*, *Ind. Med.* 7. *Alumen Rupeum ſeu Rochæ*, *Charlt. Foſſ.* 9. *Alumen Rochæ*, *Worm.* 23. This is like the former, but reddiſh; and is brought to us from *Italy* and *Smyrna*. It is made as we make the common *Alum*, by burning the *Alum* Stones, and boiling them; but without the Additions of Urine, *&c.*

3. The *Plumoſe Alum*, *Alumen plumeum ſeu Trichites*, *Schrod.* 3. 477. *Alumen Plumæ quod Sciſſile Latinis*, *Aldr. Muſ. Met.* 331. This is light, and compoſed of Filaments; it is ſoluble in Water, and melts in the Fire; therefore is evidently different from the *Aſbeſtos*, with which it has for many Ages been confounded by a Number of Authors.

Alum is a powerful Aſtringent and Drier; the natural *Alums* have a weak Smell of *Aqua fortis*; the factitious have little or no Smell. A Solution of *Alum* curdles Milk, turns an Infuſion of Galls turbid and whitiſh; concretes with Salt of Tartar into a white *Coagulum*, without any ſenſible Heat or Smoke; and when the Mixture is made with *Engliſh Alum*, an urinous Smell is perceived from the Urine uſed in its Cryſtallization.

Alum, by a chymical Analyſis, yields an acid Spirit, like that of Vitriol, but not ſtrong, nor in any great Quantity; for the aſtringent Earth, that is the Baſis of *Alum*, retains the acid Salt ſo firmly, that the Fire cannot ſeparate them; and the *Reſiduum* of the Diſtillation will cryſtallize into *Alum* again, if diſſolved in Water. Hence it is evident, that *Alum* conſiſts of an acid Salt of the Vitriolick kind, and an aſtringent Earth very cloſely united together.

The *Aſbeſtus*, or *Earth Flax*, is the *Amianthus ſive Aſbeſtus*, *Ind. Med.* 8. *Lapis Amianthus*, *Matth.* 1387. *Lact.* 118. It is remarkable for bearing the Fire unhurt; but is never uſed in Medicine.

As to the vegetable *Aſbeſtus* of our Author, I judge him to be a Man of great Veracity, therefore cannot think he would propagate a Falſhood knowingly: But I ſuppoſe he was impoſed on by the Perſon who pretended to have gathered what he gave him from a Plant.]

BOOK IV.

Of *BITUMENS.*

PREFACE.

The Word Bitumen *properly ſignifies a fat, ſulphureous, inflammable Matter, which is found of different Colours and Conſiſtence, either within the Earth, or upon it, or ſwimming upon the Face of the Waters. Of theſe we have ſeveral Sorts, ſome hard, others ſoft, and ſome liquid, like Oil. The hard* Bitumens *that we ſell, are the* Yellow Amber, Black Amber, *or* Jet; Jews Pitch, natural *and* artificial; Pit Coal, Kennal Coal, *or* Black Stone, *and* Sulphur. *The ſoft Sorts are* Naphtha, *the* Bitumen *of* Colao, *of* Syrnam, *and* Copal Bitumen. *The liquid are* Naphtha *of* Italy, *and the* Petroleum, *or* Rock Oil. *Of all which hereafter in their Turns.*

1. *Of* Amber.

Pomet. AMBER, to which the Antients have given the Name of *Succinum*, or *Carabe*, is a *Bitumen* of different Colours, being either white or yellow. This *Bitumen* is liquid when it is in its natural Place of Production; but as it comes from thence, it hardens, and becomes ſuch as we ſee: And as it paſſes from its Receſſes in the Earth, in a State of Fluidity, ſwimming upon the Waters, it is apt to carry with it what is in its Way; which is the Reaſon we find many extraneous Bodies in our *Amber*; alſo not hardening all at once, but by Degrees, a great many Inſects ſtick to it, and there die. Moſt of the *Yellow Amber* we have is found upon the Banks of certain ſmall Rivers, running into the *Baltick* Sea, in the *Ducal Pruſſia*. It is alſo found upon the Sands, which have been caſt up by the Winds, and is a Commodity which brings no inconſiderable Profit to the King of *Pruſſia*, for he raiſes above 20,000 Crowns *per Annum* from thoſe Places where it is found, over and above the great Charge they are at in ſecuring and preſerving it from others; ſo that it neceſſarily follows, that this *Yellow Amber* yields a yearly Rent of more than 100,000 Livres.

What I ſay may, perhaps, ſeem ſtrange to thoſe who do not know the great Uſe there is of *Amber* in *China*, and amongſt the *Savages*, as well as in *Europe*; but the greateſt Conſumption of it is in *Auſtria*, *Germany*, in *Poland*, and in the Neighbourhood of *Venice*; and the *Venetians* were the firſt that brought it into ſuch a Vogue and Faſhion thereabout, there being few People in *Lombardy*, or all along the *Po*, but wear *Amber* Necklaces, believing they keep them from Quinſies, and other ill Effects of the Neck and Throat, to which they are very ſubject, by Reaſon of the bad Waters they are forced to drink in thoſe Parts: Hiſtory alſo informs us, that the *Romans* made ſuch Account of it, that *Nero* cauſed great Quantities of it to be imported; but no where is *Amber* more eſteemed and valued than in *Poland* and the *Lower Hungary*, a pretty handſome Piece, without Fault or Flaw, being there as valuable, and preferred even to Gold; ſuch Lovers and Admirers of this Commodity are they. As for *France*, it is by no means ſo much in Eſteem there, though it was not many Years ago that all People of Quality and Faſhion wore Necklaces of it; but at preſent it is become ſo vulgar, that none but Servants make uſe of it. Beſides the great Uſe of *Yellow Amber* for Trinkets, *&c.* it is of Uſe in Medicine, not only to powder, but to draw a Tincture, a Spirit, volatile Salt, and an Oil, from, and to make a Varniſh with Spirit of Wine.

Amber ought to be clear and tranſparent, capable of attracting Straws, whence comes its Name of *Carabe*, which in the *Perſian* Language ſignifies *draw Straw*. When it is deſigned for any Piece of Workmanſhip, or to powder, it ſhould be white;

white; but when it is to undergo the Fire, it matters not of what Colour it be, provided it is genuine *Amber*; for there are a great many that ſell the *Copal* of *America* for it, but it is eaſily diſtinguiſhed from it, the Copal being in Pieces of the Bigneſs and Figure of Gum Araback, and the true *Carabe* ordinarily in great Lumps, and alſo moſt commonly in a ſort of Film or Skin, which ſerves as a kind of *Matrix* for it; and then again *Amber* burnt at the Candle ſends forth an exceeding ſtrong Smell; and moreover, as hath been noted, will attract Straw, which Copal will not do. Some have aſſured me that *Yellow Amber* is counterfeited with Turpentine and Cotton, or with Yolks of Eggs and Gum Araback: But as this ſort of falſe Amber would be worth little or nothing, I cannot conceive how any one need fear its being adulterated with thoſe Things.

Amber is powdered upon a Porphyry, and reduced into Cakes, which are of ſome Uſe in Phyſick, particularly to reſtrain Spitting of Blood, and to ſtop Dyſenteries and other Laſks; Doſe from ten to thirty-ſix Grains in any appropriate Vehicle. Alſo from Powder of *Amber*, with Spirit of Wine, is drawn a yellow Tincture, endowed with a great many good Qualities, eſpecially in apoplectick and epileptick Fits, and paralytick Caſes, taken from ten Drops to a Drachm in any agreeable Liquor: Some diſſolve pure fine Camphire in this Tincture to make what Monſieur *Soleyſel* calls the *Flaming Balſam*, and recommends for Wounds, Bruiſes, or cold Humours in Horſe or Man, which may be ſeen deſcribed in his Book, *Page* 274.

Karabe, *Succinum*, *Electrum*, *Ambra Lemery*. *Citrina*, or *Yellow Amber*, is a hard Matter, like a Stone, yellow, citrine or white, of a fine, ſhining, tranſparent Colour, that is brought from the *Ducal Pruſſia* in Pieces of different Shapes and Sizes: This *Amber* is thrown by the Waves of the *Baltick Sea* up the Rivers of *Pruſſia*, eſpecially by certain Winds. They likewiſe find both the liquid and ſolid on the Banks of ſeveral little Rivers, and upon the Brooks that are about the ſame Sea; that which is liquid, hardens in a little Time, and becomes ſolid as the other.

Opinions are divided upon the Nature and Origin of *Amber*. The Antients believed that it was a Mixture of Gum and Reſin that flowed from Poplars, Pines, or Firs, which being confuſedly carried by the Winds into the *Baltick Sea*, incorporated with the Salt, and was elaborated or worked up, and then thrown by the Waves upon the Banks of the Rivers. This Notion is rejected by the modern Authors, who have all writ that *Succinum*, or *Amber*, is a *Bitumen* or Juice of the Earth, which the Sea has raiſed up, and the Waves thrown aſhore about the *Ducal Pruſſia*, where it is formed, and hardens after the Manner we ſee it in. I myſelf followed this laſt Opinion in my Book of Chymiſtry: But as I have been convinced ſince by ſeveral Circumſtances, I have changed my Opinion, and found that the Thoughts of the Antients, on this Subject, were preferable to thoſe of the Moderns: For firſt of all, Travellers know that about the *Baltick Sea*, on the Coaſt of *Sweden*, there grow abundance of Poplars, Pines, and Firs, from which there flows in Summer a great Quantity of Gum and Reſin, which is partly blown into the Sea by the Winds.

In the next Place, the Subſtance, the Colour, and the Tranſparency of that reſinous Gum, reſemble much thoſe of *Amber*; for we have *Gum Copal* brought us that flows from Poplars, in the *Antilles Iſles*, and has no other Elaboration than what it receives from the Torrent of the Water in the Rivers, from whence they take it, as has been ſaid in its proper Place; and it is ſo like *Karabè*, that thoſe who know it not well may eaſily be deceived; from whence it is called, *Falſe* or *Counterfeit Karabè*. *Amber* indeed is ſomething harder, of a higher Colour, more tranſparent and reſplendent than *Gum Copal*, but theſe Perfections come from the Salt that is mixed in it, a long Fermentation and Working it meets with in the Sea, beſides the Mixture of the Pine Reſin with the Reſin of Poplar, *&c.* In the third Place, the Principles that are drawn from the true *Karabè* by Chymiſtry, are likewiſe thoſe that are taken from *Gum Copal*.

Chuſe your *Amber* in fine, large, hard Pieces, clear and tranſparent, that will attract or draw to itſelf Straws, and ſeveral other little light Bodies, when the *Amber* is rubbed in your Hand, or otherwiſe, and applied near the ſame. The white *Karabè* is preferable to the yellow, but the Difference is not conſiderable: They uſe both ſorts to make Necklaces, Bracelets, and little Cabinets, with ſeveral other Nick-nacks that are carried into *Perſia*, *China*, and *Turkey*, where the Natives eſteem them as great Rarities. They likewiſe make Amber Necklaces in *Auſtria*, *Germany*, in *Venice*, and ſometimes in *France*.

In Pieces of *Amber* there are ſometimes found Spangles, Leaves of Trees, or little Inſects; as Spiders, Ants, Flies, *&c.* This Circumſtance has given Occaſion to Naturaliſts to enquire how theſe little Bodies become incloſed in the *Amber*; and it appears to me that the Difficulty is eaſy to reſolve, ſince from the Opinions given, touching the Nature of *Amber*, it has been thought neceſſary to admit that the Subſtance of it was ſome time liquid or ſoft before it hardened; that during that

Time

Time, theſe ſmall Bodies adhered to it, as to Glue, and were wrapped up in it, or rather were covered and encloſed therein by the Addition of freſh Matter of the ſame kind; ſo that when the Whole was hardened, theſe little Bodies remained wholly embalmed, as we now ſee them.

The *Karabè* contains in it a great deal of Oil and volatile acid Salt; it ſtops the Flux of the Belly, Hemorrhage, and *Gonorrhœa*, and reſiſts Poiſon: The Doſe is from ten Grains to half a Drachm; they likewiſe burn it over the Fire to receive the Fume of it, which checks the Violence of Rheum from the Head, and Catarrhs. *Karabè* is a *Perſian* Name that ſignifies *draw Straw*; and they have given this Name to *Amber*, becauſe it attracts Straws, eſpecially when it has been a little rubbed in the Hand. The Reaſon of that Effect proceeds from this, that the ſubtil and inſenſible Particles of the Matter having been put into motion with ſome kind of Heat that follows the Friction, they emit on all Sides their *Effluvia*, and ſcatter them in the Air within their Circumference; but as they loſe their Motion according to the Diſtance they are from their Center, they become ſo much weaker, and are on all Sides repelled by the Air; and in their Return they ſtick, by their Viſcoſity, to a Straw, or any other light Body they meet with in their way, and drag it along with them. The ſame Effect happens to ſeveral other Subſtances, which are rubbed after the ſame manner, as Wax, Suet, and divers Gums. This is called *Succinum*, from *Succus*, becauſe it is ſuppoſed to be the Juice of the Poplar, or of the Earth.

Of the Spirit *and* Oil *of* Amber.

Pomet. From *Amber* groſly powdered, put into a Glaſs or Earthen Retort, may be drawn a reddiſh Spirit, and greeniſh fetid Oil.

The *Spirit* of *Amber* is eſteemed an excellent Aperitive or Deobſtruent, and very good againſt the Scurvy, taken in any Liquor, from ten to twenty-four Drops.

As for the *Oil*, it is chiefly in uſe to allay and drive down Vapours, being put upon Silk or Cotton, and rubbing the Wriſts, or Pulſe, or Noſe therewith. If you would have this *Oil* of a fine clear reddiſh Colour, you have nothing to do but to mix with it a little Earth or Sand, and to diſtil it again.

Thoſe that would have a volatile Salt, or *Spirit*, or *Oil* of *Amber*, may perform all the three Operations very well with a Glaſs Retort and a Sand-heat. As for the volatile Salt, if you find it not good and fine enough, you need only put it into a ſmall Vial or Glaſs Bottle, and ſublime it upon a gentle Fire, taking care to keep it well ſtopt; for this is a tickliſh Commodity, that will evaporate and loſe itſelf in the Air, and that which you will find in the Retort, is of a fine ſhining Black, reſembling the *Bitumen* of *Judæa*, or *Jews Pitch*.

[*Amber* is the *Succinum*, *Worm.* 31. *Charlt. Foſſ.* 14. *Ald. Muſ. Met.* 403, *&c.* It were almoſt an endleſs Work to recount the various miſtaken Opinions about the Origin of *Amber*, but the true Account of it is, That it is a bituminous mineral Juice, formed in the Bowels of the Earth, liquid at firſt, but afterwards concreted into a hard ſtony Subſtance; for in ſeveral Parts of *France*, eſpecially in *Provence*, it is dug out of the Mountains, as likewiſe in *Italy* and *Sicily*; but all this is of the dark and leaſt valuable kind; the beſt is found in *Pruſſia*, where it is of two kinds, one dug out of the Earth, and the other found on the Sea-ſhores, which is of the ſame nature with the former. *Hartman*, who has wrote an accurate Hiſtory of *Amber*, is of opinion, that all *Pruſſia* and *Pomerania* ſtand upon a Bed of it, becauſe it is always met with there, in digging Pits, in great Quantities, and ſometimes very near the Surface of the Earth. The chief Amber Mines are near the Sea-coaſt of *Pruſſia*; and from the Shore where they are ſituated, a Hill riſes, made up of a cortical Subſtance like the Barks of Trees, piled one on another; under this is found a Stratum of a kind of foſſil Wood, which *Hartman* believes to be the Matrix of *Amber*, becauſe a great Quantity of it is contained in the Veins of this Wood; and wherever *Amber* is found by digging, this Subſtance is always found.

The *Amber* which is gathered on the Sea-ſhores comes from the ſucciniferous Hills, beat to pieces by the ſtormy Sea, and waſhed on the Beech.

As for the Choice of *Amber*, it ſhould be according to the Uſe it is for; if it be to make the *Oil* the Yellow is propereſt, becauſe it contains moſt; the White has leſs Oil, and therefore is to be choſen, if wanted, for the volatile Salt; the Brown is loaded with Earth, therefore not to be uſed on any Occaſion but in want of the others.]

2. *Of the* Black Amber, *or* Jet.

JET, which, with good Reaſon, may be called *Succinum Nigrum*, or *Black Amber*, is alſo a ſort of *Bitumen*, found in the Bowels of the Earth; it is a ſulphureous Foſſil, very hard, and of a gliſtering or ſhining Black, found in ſeveral Places of *Europe*, as well in *Germany* and *Sweden*, as in *Ireland*; as alſo in *France*, between *St. Beaume* and *Toulon*; and in *Ireland* it is ſo common, that as you go along you may ſee *Pomet.*

Veins

Veins of it running through the Stones and Rocks. Some Authors are of opinion, that *Jet* is the *Yellow Amber* diveſted of its Oil, drawn out by the ſubterranean Fires, and that from thence proceed *Naphtha* and *Petroleum*; which does not ſeem very repugnant to good Senſe.

Jet is of a like Uſe with *Yellow Amber* for Ornaments and Decoration; but in Medicine it is only made uſe of for its Oil, which ſerves for the ſame Purpoſes as that of the other.

As to the Choice of it, it is ſufficient to be of a ſhining Black, as the Proverb beſpeaks it.

Gagates, in *French*, *Geſt*, *Jays*, or *Lemery*. *Jayet*, and in *Engliſh*, *Jet*, is a bituminous Stone, that is hard, black, and ſmooth, found in ſeveral Parts of *Europe*, as *Germany*, *Sweden*, *Provence*, and *Ireland*, in the Stone Quarries amongſt the Rocks; it yields a good deal of Oil, and a little volatile penetrating Salt.

Some People are of opinion that *Jet* is an *Amber* whoſe volatile Parts have been ſeparated by the ſubterranean Fires, and become what we call *Petroleum*. Chuſe ſuch as is neat, hard, and of a fine ſhining Black; it diſcuſſes, is emollient, expels Wind, and allays Vapours. The Doſe from a Scruple to a Drachm. The Name comes from *Gaga*, a River and City of *Lycia*, from whence *Jet* is ſometimes brought.

[*Jet* is the *Lapis Gagates*, *Charlt. Foſſ.* 14. *Gagates*, *Worm.* 31. *Aldr. Muſ. Met.* 418. It is a cruſtaceous and almoſt ſtony foſſil Subſtance, much like the Cannal Coal in Appearance, but differing from it, in that it has a bituminous Smell, is harder, and burns almoſt like Pitch, ſending out a thick black Smoke. It had its Name, *Gagates*, from *Gage* or *Gagis*, a Town in *Lycia*, from which it uſed to be brought, but is now too common to need ſending ſo far for.]

Of Jews Pitch.

Pomet. THE *Jews Pitch*, or *Aſphaltum*, is a *Bitumen*, ſolid, brittle, and black, ſomething reſembling black Pitch, inflammable and ſulphureous, found ſwimming upon the Waters of the Lake where heretofore ſtood the Cities of *Sodom* and *Gomorrah*, called the *Dead Sea*, or *Lacus Aſphaltites* (from whence alſo it has its Name of *Aſphaltum*) the Word *Aſphaltites* ſignifies the Lake of Aſſurance, being ſo very ſtrong, that every thing almoſt ſwims that is thrown into it; and it is called *Mare Mortuum*, or the *Dead Sea*, becauſe no Fiſh or other Beaſt can live in it, through the extreme Saltneſs, Bitterneſs, and noyſome Smell of its Waters; but, in Recompence, there are great Quantities of this *Bitumen* found floating thereupon like Greaſe or Fat, of which the Coaſters, who are *Arabs*, make very conſiderable Advantage; it being what they uſed to lay upon and beſmear their Ships and Boats with, as the Northern Nations do with common Pitch: And one Thing is very remarkable, that when this Lake is very full of this *Bitumen*, there ariſes ſuch a Stench in the Air, that the Inhabitants thereabout are neceſſitated to gather it and put it aſhore; and ſo noyſome at that Time is the Smell, that all Birds that fly over it fall down dead; and this is the Reaſon why the People in the neighbouring Places are ſo ſhort lived.

The *Bitumen* of *Judæa*, or *Aſphaltum*, ſo much reſembles the beſt black *Stockholm Pitch*, that were it not for the ſtrong Smell of Pitch, and that it is not ſo hard as the *Aſphaltum*, no one could diſtinguiſh the one from the other.

The principal Uſe of this *Bitumen* is to make the fine ſhining Blacks of *China*: It is alſo of ſome Uſe in Medicine, for that it enters the Compoſition of the *Venice Treacle*; for which Purpoſe it needs no other Preparation than to be true or genuine, that is to ſay, of a moſt beautiful, ſhining, poliſhed Black, reflecting the Image of the Sun, and of no manner of Smell: See that it be not adulterated, or mixed with *Black Pitch*, which is what is called the *Artificial* or *Factitious Piſſaſphaltum*; it is no difficult matter to diſcover this artificial *Bitumen*, being of a very baſe Black, and a ſtrong Smell. It is a Miſtake to believe, as ſome Authors do, particularly Monſieur *Furitiere*, that we have no *Bitumen* of *Judæa* brought us now-a-days; and that the Apothecaries, inſtead of it, ſell a Compoſition which they make of *Pitch* and the *Oil* of *Petre*; a thing that does not ſtand to Reaſon, nor can I conceive Apothecaries to be ſuch Knaves and Fools to do any ſuch thing, ſince the true *Bitumen* is reaſonable enough in its Price: So that it would have been better for theſe Scriblers, and all ſuch as have undertaken to write of Drugs without underſtanding them well, to have been ſilent; for they have made, and ſtill do make, horrid Blunders about *quid pro quo*, or in ſubſtituting ſuccedaneous Drugs or Medicines; which is a Matter that much concerns the King and Commonwealth.

Bitumen Judaicum, *Bitumen Babylonicum*, *Aſphaltus*, is a ſolid, brittle, black Matter, reſembling *Black Pitch*, that is ſulphureous and inflammable, and in burning ſends forth a ſtrong diſagreeable Smell: It is found ſwimming upon the Surface of the Lake, or *Aſphaltite Sea*, otherwiſe called the *Dead Sea*, where ſtood ſome time the Cities of *Sodom* and *Gomorrah*. This *Bitumen* is caſt up from time to time, in the Nature of liquid Pitch, from the Earth *Lemery*.

that

that lies under this Sea, and being thrown upon the Water, it ſwims like other fatty Bodies, and is condenſed by little and little through the Heat of the Sun and the Salt that is in it.

The Inhabitants of the Country are conſtrained to take it from thence and carry it aſhore, not only becauſe it brings them Profit, but alſo becauſe the Lake being too much loaded with this *Bitumen*, yields a ſtinking and malignant Smell, which ſpoils the Air, affects their Health, and ſhortens their Days: The Birds that fly a-croſs it fall down dead; and it is called the *Dead Sea*, becauſe of the Stench, Bitterneſs, and exceſſive Saltneſs of it; ſo that neither Fiſh or any other Creature can live upon it. The *Arabs* uſe this *Bitumen* of *Judæa* to pitch their Ships as we do common Pitch, and there was a great deal of it employed in the Embalming of the Antients.

Chuſe ſuch as is clean, of a fine ſhining Black, ſolid, and harder than Pitch, having no Smell but when it is held to the Fire; take Care it be not mixed with Pitch, which may be known by the Smell: They uſe this to make your fine ſhining Blacks of *China*. It yields a good deal of Sulphur, partly exalted with volatile Salt and a little Earth; it fortifies, and reſiſts Putrefaction, reſolves, attenuates, and cleanſes cicatrized Wounds, and is uſed externally and internally.

It is ſuppoſed that the Word *Bitumen* comes from the *Greek* Word πίτυς, which ſignifies a *Pine*, and which has been changed by Corruption, the π being altered into a β, from whence they pronounced it *Bitumen*, inſtead of *Pitumen:* This Etymology is taken from the Opinions of the Antients, that the *Bitumen* of *Judæa* was a Pitch that flowed from Pines, and ſeveral other Trees about the Lake of *Sodom:* So were the *Jews* of that Opinion before: The Prophet *Eſdras*, ſpeaking of *Sodom* and *Gomorrah*, ſays, that the Earth is founded upon Pitch and Heaps of Aſhes.

[*Jews Pitch* is the *Bitumen Judaicum*, *Worm.* 31. *Charlt. Foſſ.* 14. *Bitumen nigrum craſſum*, *Kentm.* 21. *Bitumen Judaicum aſphaltum*, *Mont. Ex.* 12. It is a *Bitumen* formed in the Bowels of the Earth: It is found in many Places; but the beſt is that ſwimming on the *Dead Sea:* And there is no queſtion of its being thrown up into it by the Earth, ſince all the Hills there about are full of it, and Pieces of two Feet length are dug up black as Jet, and hard enough to bear poliſhing like Marble. *Herman* alſo found of it on an Iſland near the *Cape of Good Hope.*

Dioſcorides directs us to make Choice of that which ſhines like Purple, and to reject what is black, as foul, and of no value. How far his Directions agree with what we now receive of it, is not eaſy to ſay, for it is always quite black, but when broken, and held to the Light, is of a reddiſh or Saffron Colour. It is at preſent very ſeldom ſeen in the Shops, and we are obliged to uſe the *Piſſaſphaltum* in its Place; but not the artificial *Piſſaſphaltum*, which is made of common Pitch, *&c.* but a genuine, mineral, bituminous Subſtance, named by our Author in the Chapter of *Naphtha* hereafter, called *Foſſil Pitch*, the *Piſſaſphaltos Nativum*, *Schrod.* 4. 208. *Piſſaſphaltum*, *Worm. Muſ.* 30. *Charlt. Foſſ.* 141. This is found in the *Campania* of *Rome*, oozing through the Crannies of the Rocks like Tar; as alſo in *Auvergne* in *France*, and about *Epidaurus* in *Morea*, where it is waſhed from the Mountains by the Rivers, and formed into black hard Glebes. Its Virtues are the ſame with thoſe of the former, and it is what is almoſt conſtantly ſold in its Place.]

4. *Of* Pit Coal.

EARTH, or *Pit Coal*, is a ſort of ſtony *Bitumen*; it is chiefly uſed by Farriers and other ſorts of Smiths to heat their Iron. That of *England* is eſteemed the beſt, though there are ſome that ſay ours of *Auvergne* comes very little behind it; it is made a great Traffick, being a Commodity much uſed in *France*; the beſt is pretended to be that which is moſt void of Sulphur, and conſequently that which will keep longeſt in the Fire. Some will have it that this Stone Coal is the Reſult of *Petroleum* made in the Bowels of the Earth, which is probable enough, ſince out of it may be drawn an Oil altogether like the Oil of *Petre.* *Pomet.*

It is called in *Greek*, *Lithanthrax*; in *Latin*, *Carbo Petræ*, or *Carbo Foſſilis*; and in *Engliſh*, *Coal*; and is diſtinguiſhed into *Sea Coal*, and *Pit Coal*, only upon the Account of that which is generally carried by Sea; all Coal being, properly ſpeaking, *Pit Coal*; it is chiefly found in *England*, *Scotland*, *Ireland*, *Germany*, *&c.* and is an impure Sulphur, mixed with many groſs and earthy Parts, and a volatile Salt, being ſtrong, friable, and black: In Diſtillation it yields an acid Spirit, reddiſh Oil, black Balſam, and volatile Salt, like Amber; as is but too well known to the Chymiſts of this Age, who adulterate with it moſt of the Preparations of their Shops, that are either chargeable or troubleſome and tedious in the Operation. The Virtues of this are in a lower Degree like thoſe of Amber, as well internally as externally applied. *Lemery.*

[*Coal* is the *Lithanthrax*, *Merſ. Pin. Carbo Foſſilis ſive Lithanthrax*, *Worm.* 31. It is drying and detergent, and is much oftener uſed in Medicine

dicine than the Phyſician imagines. *Lemery* has juſtly obſerved the villainous Tricks played within in Adulterations by the Chymiſts; and thoſe of our Nation are not at all inferior to the *French* in Inventions of that kind.]

5. *Of* Terra Ampelites, *or* Kennel Coal.

Pomet. TERRA *Ampelites*, or *Kennel Coal*, is a dry *Bitumen*, impregnated with Sulphur, that eaſily ſplits into Scales, and is reduced to Powder; it is found in the Entrails of the Earth in many Places of *France*. We have two ſorts of it, the one ſoft, the other hard, which comes from near *Alenſon*, in the Province of *Maine*; the Property of the Quarry whence it is taken belongs to a Curate of a Pariſh, who makes Seven or Eight hundred Livres *per Annum* of it. The Quarry is forty or fifty Feet deep; and though this is a Merchandize of low Price, yet they make a good Trade of it; there hardly being any Artificers in Stone or Wood, but what make uſe of it more or leſs. That which is good muſt be lately taken from the Mine, for when it is ſtale and old, it reſolves into a Powder, and becomes a Saltpetre; it ought to be light, neither too ſoft nor too hard. Some have given it the Name of *Vine Earth*, becauſe it kills or drives away the Worms from the Vines. Alſo it is called *Pharmacitis*, becauſe it is uſed in Medicines.

Lemery. *Ampelitis, ſive Pharmacitis*, the Black Stone, or medicinal Earth, is a very bituminous Stone, black as Jet, ſplitting into Scales, and is eaſily reduced to Powder. They get it from a Quarry near *Alenſon* in *France*. There are two ſorts of it, one ſoft and the other hard; it affords Abundance of Sulphur and Salt; it is proper to kill Worms, applied to the Belly, and to dye the Hair black. Some uſe it to deſtroy Vermin at the Vine Roots.

[*Cannal* or *Kennel Coal*, is the *Lapis Ampelitis Galeno*, *Charlt. Foſſ.* 14. *Succinum Nigrum*, *Schwenk*, *Cut. Foſſ.* 394. *Terra Ampelitis*, *Worm.* 31. *Terra Ampelitis ſive Pharmacitis, qua medici utuntur*, *Kentm.* 3. It is a Detergent, and good in malignant Ulcers, but not much uſed in Medicine; near the Places where it is dug in *England*, they turn it into Toys, *&c.* which are beautiful, and bear a very fine Poliſh.]

6. *Of* Sulphur Vivum, *or* Native Sulphur.

Pomet. SULPHUR *Vive* is a bituminous Earth or Clay eaſily inflammable, that in burning emits a ſulphureous Smell; it is brought us from *Sicily*, *Italy*, and other Places. As to the Choice of Live Sulphur, ſo called becauſe it is ſold and made uſe of juſt as it comes out of the Earth, let it be tender or ſoft, friable, eaſy to be broken, ſmooth, ſhining without as well as within, and of a ſort of Mouſe Dun, or Grey, as free from Gravel and Duſt as poſſible.

This ſort of Sulphur is in Uſe for ſome particular Operations, and certain Galenical Compoſitions, and pretty much uſed by Vintners, who mix it with Sugar, *Anis*, Cinnamon, Nutmeg, Cloves, *&c.* to ſweeten and preſerve their Veſſels.

Apothecaries alſo uſe it to correct *Scammony* by the Fume of it.

7. *Of* Mineral Sulphur.

SULPHUR *Mineral* is a hard earthy *Bitumen*, of a yellow Colour, and bright enough, of a fœtid ſulphureous Smell, eaſy to be melted or burnt, and is more or leſs beautiful, as it is more or leſs mixt with Impurities it meets with in the Mine.

This Mineral Sulphur comes from Mount *Veſuvius*; as to the Choice of it, though indeed it is made but very little Uſe of, let it be in handſome Lumps, of a golden Yellow, bright and ſhining, and as little as may be mixed with Earth or other Filth.

Its Uſes and Qualities are no other than like thoſe of the common factitious Brimſtone that is made of this, which we are going to ſpeak of under the next Head.

Of Sulphur *in* Rolls, *or* Common Brimſtone.

Pomet. The common factitious *Sulphur* or *Brimſtone*, is made of yellow Mineral Sulphur melted, and by the Aſſiſtance of right Train Oil and Moulds, caſt into the Form in which we ſee it.

This Sulphur is more or leſs beautiful, and endowed with good Qualities, according the Degree of its Purification, and the Places where it is made; for that of *Holland* is much better, and more beautiful than that of *Venice*, or that of *Marſeilles*, the three Places whence it comes, and where it is made: The Gentlemen of the *Royal Arſenal*, indeed, manufacture great Quantities, but they make uſe of it all themſelves.

In your Choice of this factitious Sulphur, or Brimſtone, take ſuch as comes from *Holland*, in large thick Rolls, of a golden Yellow, light, eaſy to break, and being held cloſe, or graſped in the Hand, and applied to the Ear, crackles and makes a Noiſe, and at length breaks to Pieces, and being broken, appears as it were in Cryſtals, which are

the true Marks of that of *Holland* and *Venice*; none of which are to be found in the *Marſeilles* Sulphur, it being little better than a grey ſort of Earth of late; however, ſince we could have none from *Holland*, they have learnt the Art of well-working it there; and I think it has been our own Fault that we have ſuffered other Nations ſo long to run away with the Profit of refining it as it ought to be. The Reaſon has been, that no Merchants have undertaken to write of it, or enquire into the Manner of doing it; only a few Phyſicians, and ſome Apothecaries and others that have travelled, but underſtood nothing of the Myſtery of Trade, have ſet Pen to Paper concerning it, who acquit themſelves but indifferently, when they tell us that ordinary Sulphur in Rolls, or common Brimſtone, is made of *Sulphur Vive*; for that would be to turn Pewter into Lead, ſince the latter, though natural, is more valuable, that is, will ſell dearer than the former, notwithſtanding it be wrought; however, I would not be thought to diſcourage Authors, few Books being ſo ill written, but may contribute, in ſome Meaſure, to the Advancement of Knowledge; only in general it may be ſaid, that the Subject one is going to treat of, ought to be underſtood before we begin to write.

There are ſeveral other artificial Sulphurs, as I have already taken Notice, proceeding only from the different Preparations of different Countries; as the ordinary Sulphur of *Marſeilles* is in ſmall Rolls, and the green Sulphur of the ſame Place, both in large and ſmall Rolls, which ſort is eſteemed the beſt for Diſtillation, as ſhall be ſhewn hereafter.

There are a great many other natural Sulphurs, beſides the two ſorts we ordinarily make uſe of, but they are not very common with us, becauſe they come from a great Way off, and we have them not in large Quantities.

The firſt and moſt deſirable is that of *Quitto*, of a golden Colour, and an Amber Figure, found in great Abundance near the Gold Mines.

A ſecond ſort is that of *Nicaragua*, which is in a yellowiſh grey Maſs, altogether like that which was found, ſome Years ſince, in that Bank of Earth which was levelled by *St. Martin's Gate* in *Paris*.

A third ſort is of *Switzerland*, reſembling that of *Quitto*; and many more there are which I ſhall forbear to mention, there being no Demand for them.

The Uſe of Sulphur in Rolls, or common Brimſtone, is well known to all, and that it is one of the chief Ingredients of Gunpowder; for which Reaſon, thoſe that ſell great Quantities of it to the *Arſenal*, for that Purpoſe, ought to diſcover it when it is faulty, that what is made of it may not fall ſhort of Expectation. This Sulphur is uſed too in whitening Gauzes, Stockings, *&c.* for nothing blanches any Thing of Woollen like the Fume or Vapours of Sulphur.

It is alſo of conſiderable Uſe in Medicine, as well in many Preſcripts, as to perform a great many Operations in Chymiſtry, as will be ſeen hereafter.

It is beſides a Specifick in the Itch; but Care ought to be uſed, for it now and then produces very ill Symptoms.

Sulphur or *Brimſtone*, is brought to us from the *Caribbee* Iſlands of the *Weſt-Indies*, and is found alſo in *Italy*, *Bohemia*, *Siciliq*, and *Melos*, being generated of the Fat and Reſin of the Earth, filled with an acid and vitriolick Spirit. It is twofold, *viz.* Natural and Artificial. The Roll Sulphur is the latter; but if you would make right Oil of Sulphur, you muſt chuſe the *Natural*, or *Sulphur Vivum*; but if that cannot be got, you muſt make uſe of the other, which yet you are to try, whether it eaſily inflames and burns conſtantly; if not, it is not good, but is impure and adulterated with Reſin, and ſuch like Matters, whereby it becomes harder to kindle, and is eaſily extinguiſhed, being *Caballine Sulphur*. *Lemery.*

It is a noble Mineral even before Preparation, and is generally appropriated to the Breaſt and Lungs, and to cure all Diſeaſes which diſturb the ſame; it kills Worms, opens, cuts, reſiſts Putrefaction and Poiſon, provokes Sweat, and is given in Coughs, Colds, Phthiſicks, Wheeſings, Shortneſs of Breath, *&c.* Outwardly applied it reſolves all hard Tumours, cures corroding Tetters, Scabs, Itch, Scurf, Morphew, *&c.* dries up old Sores and Ulcers. Though this being finely ground, is ſometimes uſed internally, yet the Flowers are more commonly uſed, as being a Sulphur opened and purified from all Filth, whereby it is fitter for all internal as well as external Uſes.

Of Flowers *of* Sulphur.

Flowers of *Sulphur* are prepared of *Sulphur* burned in Pots made for the Purpoſe, and ſo reduced into *Flowers* as we ſee. The beſt and moſt beautiful *Flower* of *Sulphur* comes from *Holland*; but of late, ſince it has been made at *Marſeilles*, *Roan*, and *Paris*, we have little thence. The true *Holland's Flowers* of *Sulphur* were wont to be brought us in Cakes that were light, ſoft, friable, and rather white than yellow; but through Avarice and the preſent Wars, there *Pomet.*

there is no ſuch now; and the beſt that we have at preſent is from *Marſeilles*, which, though very good, does not come near that I have mentioned of *Holland*; it ought to be in an extraordinary fine impalpable Powder, of a bright Yellow, and of an agreeable Taſte.

The third ſort is that of *Roan*. This uſually is of a whitiſh Yellow, made up of Sulphur raiſed by a violent Fire, and Meal or Wheat Flower, or fine powdered Starch, added to it, which is all a Cheat. In like Manner is that which is generally hawked about, made of the Powder of *Holland* Sulphur beaten, and paſſed through a very fine Taffety or Silk Searce; but the Cheat is eaſily diſcovered by the low Price this ſpurious Stuff is ſold at.

Upon the whole, *Holland's* Flowers of Sulphur are preferable to any other; next to them thoſe of *Marſeilles*; and theſe are the only two that ought to be given internally.

The true Flowers of Sulphur are natural Balſam for the Lungs, and endowed with ſo many good Qualities, that it would be endleſs to recount them all.

Flower of *Sulphur* is alſo made after another Manner, to wit, by adding to it fixed Salt-petre, or *Sal Polychreſtum*, which is the Method we uſe to make it white; but there being little Demand for this ſort, it is ſeldom made, though it be a very good Medicine, and more agreeable to take than the abovementioned.

Lemery. To make Flowers of Sulphur, take Sulphur groſly powdered, half a Pound; put it into a Glaſs Body, or Cucurbit; place it in a ſmall open Fire, and cover it with another Glaſs Body, or earthen Cucurbit; turn the bottom upwards, ſo as that the Neck of the lower may enter into the Neck of the upper; change the upper Cucurbit every half Hour, fitting another in its Place; adding likewiſe, new or freſh Sulphur; the elevated Flowers ſweep together with a Hare's Foot, and continue to do thus ſo long till you have what you deſire. Theſe Flowers are good againſt Diſeaſes of the Lungs; Doſe ten or twelve Grains in any fit Syrup, Pulp, or Electuary; outwardly you may mix them with Hog's Lard, for Scurf, Tetters, and the Itch; but be cautious of uſing it to Infants, eſpecially anoint not any where upon the Trunk of the Body, and eſpecially the Belly. If your Sulphur be ſublimed with *Sal Polychreſt*, you will have white Flowers.

Of Salt *of* Sulphur.

Pomet. The *Salt* of *Sulphur* is made ſeveral Ways, but the beſt and eaſieſt is according to Monſieur *Charas's Pharmacopœia*, p. 887. whither the Reader may have Recourſe. This Salt is compoſed of Salt-petre refined, and Spirit of Sulphur, reduced by means of a Retort with a Sand Heat, into a white Maſs, which has many good Qualities; or it may be made with the *Sal Polychreſt*, or otherwiſe, as may be ſeen in Abundance of chymical Books which treat of it.

Salt of Sulphur is much in Uſe to temper and allay the Heat of Fevers; the Doſe is not adjuſted, but it is ſufficient to give it in any common Drink to an agreeable Acidity.

What Form one pleaſes may be given to this Salt; ſome have it in a Maſs, others in Cryſtals; ſome granulated, and others in Powder, or, finally, in Rolls; which laſt is a curious Method, and known but by few.

Of Magiſtery, *or* Milk *of* Sulphur.

Pomet. The *Magiſtery*, or *Milk*, as it is called, of *Sulphur*, is made of the Flowers of *Sulphur*, and Salt of Tartar boiled in Water; adding diſtilled Vinegar to precipitate a Powder, which when dried will be white, and is eſteemed very good for the Lungs, and for Aſthmatick Perſons.

Lemery. If half a Pound of Flowers of Sulphur be mixed with a Pound and an half of Salt of Tartar, or Pot-aſhes, and be boiled in two Gallons of Water for ſix or ſeven Hours, the Sulphur will be all diſſolved, and the Liquor become red: This filtred and mixed by little and little with Spirit of Vinegar, or ſome other Acid, preſently becomes white like Milk. Let it ſtand to ſettle, and a white Powder will precipitate, which being edulcorated by five or ſix Times waſhing in hot Water, and dried, is the *Lac Sulphuris*, which is better than the Flowers for all the Diſeaſes aforenamed, given from ſix Grains to fifteen. This is powerful againſt all Manner of Catarrhs and Fluxes of Rheum from the Head that fall upon the Throats and Lungs; for it conſumes and dries up all ſerous and watry Superfluities.

Of Spirit *of* Sulphur.

Pomet. *Spirit* of *Sulphur* is a Liquor drawn from the green Sulphur, by the Aſſiſtance of Fire and certain Veſſels, as Meſſieurs *Charas*, *Lemery*, *&c.* teach us; and as it is of different Colours, according as it is more or leſs diveſted of its Phlegm, ſo it has two different Names aſſigned it: That which is juſt as it comes out of the Veſſels is called Spirit of Sulphur, which when good ought to be as clear as Rock Water, and of an agreeable Acidity, and which put upon blue Paper,

will turn it red; but the beſt and ſureſt Proof is to deal with honeſt Men for it.

The ſecond ſort, to which improperly the Appellation of Oil of Sulphur has been given, is the former ſeparated from its Phlegm or ſuperfluous Humidity, and which has a bright Yellow, or golden Colour, and is ſo very ſtrong that it cannot be endured upon the Tongue.

Some Hawkers counterfeit Spirit of Sulphur by a Mixture of Vinegar and Spirit, or rather Phlegm of Vitriol, or with Water, adding a few Drops of *Aqua fortis*, and ſell it to abundance of People, eſpecially to Vintners, who uſe a great Quantity of it upon ſome Occaſions.

Great Virtues are attributed to the Spirit and Oil of Sulphur in Fevers and pulmonary Caſes eſpecially.

Not long ſince it has been diſcovered, that Spirit, or rather the Oil of Sulphur, is the only Thing to give Luſtre to the *Peridot*, as will be ſeen where we treat of precious Stones; and alſo to fix the Colour of the Everlaſting Flowers, as we call them.

Of Balſam *of* Sulphur.

Balſam of *Sulphur* is made two Ways; *Firſt*, with the green or expreſſed Oil of Anniſeed, and the beſt Flowers of Sulphur, melted or diſſolved together; which is called *Balſam* of *Sulphur* anniſated, and has great Qualities aſcribed to it, as will be ſeen hereafter.

Monſieur *Charas* ſays, in his Book, p. 470. that ſome are of opinion this Balſam is in Quality but little behind the *Natural Balſam*, or *Balm* of *Gilead*, becauſe it heats and dries moderately, and reſiſts Corruption or Putrefaction; it therefore is a celebrated Medicine in pectoral Caſes, being very beneficial in Coughs, Aſthmas, Pleuriſies, and Ulcers of the Lungs. It is good alſo againſt Weakneſſes and Indigeſtions of the Stomach, reſtores the Appetite, expels Wind, eaſes all ſorts of Cholicks. It is ſaid to be good alſo againſt the Plague, and all epidemical Diſeaſes, venereal Effects, continual or intermitting Fevers, and the Epilepſy. It may be taken internally, and from three to ten or twelve Drops; and the Stomach or Navel may be anointed therewith in any Illneſs of the former Kinds, or in Cholicks, *&c.*

The diſtilled or chymical Oil of Anniſeed might be made uſe of for this Compoſition, were it not that in the Operation it is apt to evaporate and fly off, do what you can, more than the green or expreſſed Oil.

The ſecond Way or Method of making it, is with Oil of Walnuts cold drawn, and Flowers of Sulphur, mixed together, which, by the Aſſiſtance of the Fire, is made into a Balſam very good to digeſt, diſcuſs, or reſolve any crude Fluxion impacted in any Part of the Body, made uſe of by way of Unction: It is alſo the Baſis of *Emp. Sulphuris*.

Some uſe Oil of Sweet Almonds, white Poppy Seed, or Turpentine, inſtead of Oil of Walnuts, in the Compoſition of this Balſam, in which every one may do as ſeems beſt to him.

Some again add to this Balſam, Myrrh, Aloes, Saffron, and the like.

Beſides the Sulphurs afore-mentioned, we have a ſort of Earth or yellow Stone, which Mount *Ætna* ſends forth, called by us *Naples Yellow*, which Painters make uſe of; but this ſort of Earth is ſcarce amongſt us: The Marks of its Goodneſs are, that it be ſandy, and of as high a Colour as may be. This Earth is nothing but a Sulphur hardened by the Fire in the Bowels of the Earth, which makes it dry and brittle.

You may make a Balſam of Sulphur in a ſmall time, by taking to one Part of Flowers of Sulphur four or five times as much good Oil of Turpentine, Oil Olive, or the like, and boiling them in a Pipkin, ſo big, as it may be but half full, till the Flowers are perfectly diſſolved into a blood-red Balſam; let the Fire be pretty quick, yet not too quick, and continually ſtir it all the while it is making, till it is cold, otherwiſe the Flowers will be apt to coagulate into a Maſs, and ſo you will have no Balſam. It is good againſt Coughs, Colds, Aſthmas, Conſumptions, *&c.* outwardly applied, and is taken inwardly from four Drops to twenty. *Lemery.*

[*Sulphur* is of various Kinds; the general Diſtinction is into Native and Fictitious, of both which Kinds there are a great Number of Species, differing in Colour, Texture, and, in the latter ſort, Manner of Preparation.

The different ſorts uſually kept in the Shops are four, the *Sulphur Vive*, the *Pure Sulphur*, the *Caballine Sulphur*, and the common Roll Brimſtone.

The *native Sulphur*, or *Sulphur vive*, is the *Sulphur nativum*, *Schrod.* 501. *Sulphur nativum ſeu vivum*, *Charlt. Foſſ.* 12. *Sulphur foſſile ſeu vivum & nativum*, *Worm.* 26. This is of various Kinds, but what is commonly found in the Shops is either pellucid and yellow, brought from *Peru*, *Switzerland*, *&c.* or opake, greeniſh, yellowiſh, or greyiſh and like Clay, dug up near the burning Mountains and ſulphureous Springs in many Places. This laſt, though not ſo pure or valuable, is the common kind ſold in the Shops.

The *pure Sulphur* is the *Sulphur factitium*, *Worm.* 26. *Aldr. Muſ. Met.* 364. *Charlt. Foſſ.* 12. This alſo is of many Kinds, and prepared in many different Manners: In ſome Places it is obtained

tained by boiling ſulphureous Waters, as at *Buda* in *Hungary*; in others, by a kind of Sublimation from the ſulphureous Earth, as in *Italy* and many other Places; and in others, it is extracted from a kind of Pyrites by the Help of Fire, as about *Liege*, *&c.* it is then melted and formed into Cakes, or elſe thrown into hollow Cylinders of Iron, rubbed over with Oil on the Inſide, and ſo formed into Rolls. This is the true factitious pure Sulphur to be uſed in Medicine, and is either yellow or greeniſh; the laſt is proper for many chymical Preparations, as containing the greateſt Quantity of vitriolick Salt.

The *Caballine* or *Horſe Sulphur*, is the *Sulphur Caballinum factitium*, *Kent.* 9. *Sulphur nigrum Caballinum*, *Worm.* 28. *Charlt. Foſſ.* 12. It is the the Fœces of the other Sulphurs, mixed with Steel Duſt, or the Squammæ that fly off from Iron in the hammering, and ſometimes formed into Cakes without any Mixture at all.

The laſt ſort, or common Roll Brimſtone, is uſually a Mixture of Sulphur and common Reſin, caſt into Moulds. This is what is generally ſold by Grocers and the petty Druggiſts, but ought never to be uſed in Medicine.]

8. *Of* Naphtha, *or the* Slimy Bitumen.

Pomet. NAphtha is a *Bitumen* or Slime, found in many Places of *Europe*: The Name of *Maltha* was given firſt to a ſort of *Bitumen* found near *Comagene* in *Syria*. *Pliny* tells us, that this *Bitumen* is ſo glutinous, that it ſticks to whatever it touches, from whence comes its Name of *Maltha*; and accordingly he relates ſome ſtrange Stories of it, as that at the Siege of *Samozata*, which *Lucullus* undertook, it was of great Advantage to thoſe in the Town; for that as ſoon as it touched any of the Soldiers at whom they threw it, it ſet them on fire in ſuch ſort as could not be extinguiſhed without throwing Earth upon them, being of the Nature of other *Bitumens*, which the more you caſt Water upon them, the more they blaze. There is another ſort of *Bitumen* found near *Raguſa*, which has the Smell of, and ſerves for the ſame Purpoſes as common Pitch, and therefore has the Name of *Maltha*, or *Natural Piſſaſphaltum*, or *Earth Pitch*, beſtowed upon it: But theſe two ſorts being unknown to us, and we having none of them in *France*, I ſhall content myſelf to ſpeak of that of *Auvergne* only.

The *Bitumen* then of *Auvergne* is a ſort of Pitch, of a diſagreeable Smell, found between *Clermont*, *Mont-ferrant*, and *Rion*, in a Place called *Pege-wells*, where it is in ſuch abundance, that it makes its way out of the Earth, and cauſes a great deal of Uneaſineſs to Paſſengers, who when they tread on it can hardly draw up their Feet, it is ſo ſticking, and who, by reaſon thereof, are are often forced to leave their Shoes behind them. It is this famous Drug the Huckſters dry, and then ſell to ignorant Apothecaries, and others, inſtead of the true *Bitumen* of *Judæa*, though it be eaſily diſtinguiſhable from it by its ſtrong Smell, whereas the true *Judæa Bitumen* is almoſt without any Smell at all: It is from its fœtid Smell, ſome, as to *Aſſa Fœtida*, have given it the Name of *Stercus Diaboli*, or *Devil's-Dung*. There are alſo many other ſorts of *Bitumen*, that come from the Bowels of the Earth; but we having no Commerce in them, as having none of them, I ſhall not trouble myſelf to ſpeak any thing about them.

[What our Author has deſcribed here under the Name of *Naphtha*, are ſeveral different Kinds of the *Piſſaſphaltum*, which I have already mentioned in the Chapter of *Bitumen Judaicum:* The true *Naphtha* is a more fluid *Bitumen*, and nearer approaching the Nature of *Petroleum*, but not abſolutely the ſame with it, as ſome have judged; it is the *Naphtha Alba & Nigra*, *Kœmp. Amœn. Ex.* 274. *Napheha*, *Worm.* 30. *Aldrov. Muſ. Met.* 388. *Pharmacum Medæ quibuſdam.* It is not to be found in the Shops, but ſtands recorded for its inflammable Qualities.

The *Maltha* of the Antients was a Mixture of this, and an argillaceous Earth, which together made a kind of Cement, uſed as Mortar in Building; and, according to *Vitruvius*, this was the Mortar uſed in building the Walls of *Babylon*.]

9. *Of* Naphtha *of* Italy.

THE *Naphtha* of *Italy* is an Oil of different Colours, flowing principally from a Rock ſituate in the Valley of *Montfeſtin*, in the Dutchy of *Modena*; and this Oil has been known to us but a few Years ſince, by the means of one *Roque Foura*, a Native and an Inhabitant of the Village called *Prat*, near *Briançon*, in the *Upper Dauphiné*, of whom I bought the different ſorts of *Naphtha* that I have by me, and from whom I had the following Account.

The *Italian* or *Montfeſtin Naphtha*, comes from a Rock which is upon a Mountain, whither it is conveyed by ſubterranean Veins, and it is gathered in Oil of different Colours, by means of certain Canals and Cauldrons which ſeparate it: The Duke of *Sara* and *Darce*, and the Marquis of *Arpia* in *Modena*, to whom the aforeſaid Rock belongs, have cauſed Trenches, and Copper Canals, or Pipes, to be made, which are purpoſely placed to receive the Oil as it diſtils from the Rock, by means of which it falls into the Cauldrons, from whence

whence it is taken for Uſe. It is obſervable, that this Oil changes Colour according as it is nearer or farther off from the direct Light of the Sun; ſo that that which is of the ſunny Side is white, and clear as Water, and moſt eſteemed, that next to it clear and red like Wine, the next yellow, afterwards green; and, in ſhort, that which is at the other oppoſite Side of the Rock, quite off from the Sun, is black.

White *Naphtha*, which we commonly call Oil of *Petre*, or white Rock Oil, becauſe of its Whiteneſs, Clearneſs, and Beauty, is immiſcible with any Thing in the World beſides, being lighter than whatſoever can be put to it, and conſequently it will be uppermoſt; its ſtrong piercing Smell comes near that of Sulphur, which renders it extremely volatile. It is eaſy to catch Fire, which may ſerve as a Precaution to thoſe who ſell it, to be as careful of it as of Gun-powder.

The great Virtue of this Oil is the Reaſon why I will not ſay any Thing of it here, but rather refer my Reader to what the aforenamed *Roque Foura* has printed concerning it. As for the red, yellow, and green *Naphtha*, they are ſo little in Uſe, that we do not ſee any of them at all: And moreover, another Reaſon for it may be, that the *Italians* mix them with the black Oil before they ſend it to us; and this makes the Oil of *Petre*, which we have thence, inſtead of being black and thick, as it comes out of the Rock, to be red, tranſparent, and yellowiſh, and moderately ſulphureous in its Smell. And as this Oil is pretty dear, ſome counterfeit it, as will be ſeen in the next Chapter.

Naphtha, Piſſaſphaltum Naturale, is a kind of ſoft or liquid *Bitumen*, of different Colours, very inflammable, which is brought from ſeveral Parts; as the Place where antient *Babylon* ſtood, and about *Raguſa*; likewiſe from a certain Lake or Marſh of *Samoſata*, and divers other Parts. But we have now no other *Naphtha* brought but what comes from *France* and *Italy*; the laſt of which is a ſort of *Petroleum*, or clear Oil, that is ſometimes white, ſometimes red, ſometimes yellow, ſometimes green, and ſometimes black. It flows from a Rock ſituate on a Mountain near *Montfeſtin*, in the Dutchy of *Modena*. The white is moſt valued. The *Bitumens* called *Naphtha* are almoſt all Sulphur or Oil mixed with ſome acid and volatile Salt. They are inciſive, penetrating, deterſive, digeſtive, vulnerary, and ſtrengthening, and ſo are prevalent againſt Palſies, Weakneſs, and Relaxation of the Nerves. Outwardly applied they relieve the Tooth-ach; and diſſolved in a Turpentine, or vinous Clyſter, prevail againſt Dyſentery and *Diarrhœa*. *Petroleum* is by many uſed inſtead thereof. *Lemery.*

[The *Naphtha* of *Italy* is a kind of *Petroleum*, the *Petroleum flavum, ſive Italicum, Ind. Med.* 90. It is particularly plentiful about *Frumetto*, where the Inhabitants dig Wells of thirty or forty Feet Depth, till the oily Spring is found, and there it is always mixed with Water. The Wells dug at the Foot of the Hill, furniſh a large Quantity of very red Oil; thoſe near the top a white, but in much ſmaller Quantities, but which is moſt eſteemed, and is what they particularly call the *Naphtha:* There is alſo a Rock in the ſame Country, near the *Apennine* Mountains, where there is a conſiderable Spring of Water which runs perpetually; on which there ſwims a yellow Oil of of this kind in very large Quantities, inſomuch, that it is uſually gathered twice a Week by many Pounds at a Time.]

10. *Of the black Oil of* Petre, *or Oil of* Gabian.

THE *Petroleum*, or black Oil of *Gabian*, is a liquid *Bitumen*, that comes from the Bowels of the Earth, and by ſubterranean Channels is thrown upon the Waters of a ſmall River, near a Village called *Gabian*, in the Biſhoprick of *Bezier* in *Languedoc*. Formerly this Oil was ſo plentiful and common, that it was made but little Account of; for conſiderable Quantities might be gathered of it daily: But now *Mondays* are only ſet apart for that Purpoſe; and the Place where it is, is encloſed with a Wall, and guarded by a Man. And I have been told at *Gabian*, that the Biſhop makes a great Profit of it, which notwithſtanding is not ſo great as it was heretofore. *Pomet.*

This Oil ought to be of a middle Conſiſtence, of a ſtrong ſtinking Smell, and of Colour black.

In the Choice of it, one muſt ſee that it be not Oil of Turpentine, thickened and coloured with black Pitch. The beſt Way is to buy it of honeſt reputable Merchants, that would not do an ill Thing, and ſell one Thing for another, and not to expect it at an under Price.

The black Oil of *Petre* of *Italy*, or of *Gabian*, is ſomewhat in Uſe in Phyſick, but chiefly employed by Farriers, and thoſe that make artificial Fire-works.

There are moreover other ſorts of Oil of *Petre*, or *Bitumens*, found in many Parts of the World, as thoſe of *Colao*, of *Surinam*, and *Copal*; but ſince we have none of them, nor any Trade or Dealing in them, I will not pretend to ſay any Thing concerning them.

Petroleum,

Petroleum, ſive Oleum Petreæ, or *Lemery*. *Rock Oil*, is a kind of *Naphtha*, or bituminous Liquor, that flows from the Clefts of ſeveral Rocks, Stones, and Quarries, in many Parts of *Italy*, *Sicily*, and *Languedoc*. It is brought of ſeveral Colours; as black, red, white, and yellow. The black *Petroleum*, uſually brought us from a Village in *Languedoc*, called *Gabian*, and from thence Oil of *Gabian*, is of a very unpleaſant Smell. All the Kinds of *Petroleum* are inciſive, penetrating, reſolutive, attenuating, reſiſt Poiſon, deſtroy Worms, expel Wind, ſtrengthen the Nerves. Some Drops may be taken inwardly and outwardly, the Joints, Emunctories, and Navel, may be rubbed with it.

It is hot and dry, and of thin Parts, and is of admirable Uſe againſt Aches and Pains, and all cold Diſtempers of the Muſcles, Nerves, and Joints. It is prevalent againſt Gout, Palſies, Cramps, Convulſions, Apoplexy, Megrim, and other cold Diſeaſes of the Head and Brain. Anointed upon the Region of the *Abdomen*, Bladder, Reins, Spleen, or Womb, it gives Eaſe to all Pains and other Diſorders of thoſe Parts, diſcuſſes Swellings, *&c.* It is ſaid to cure ulcerated Kibes and Chilblains, to help Bruiſes, and heal old Sores; and is of ſingular Uſe againſt the Rheumatiſm, or running Gout. Some ſay that that which comes out of *India* is the beſt and pleaſanteſt, and is thought to have all the Virtues of the *Naphtha* aforegoing.

[*Oil* of *Petre* is the *Bitumen Liquidum oleo ſimile quod innatat lacubus*, *Kentm.* 20. *Petroleum*, *Worm.* 30. *Charlt. Foſſ.* 14. *Petroleum Rubrum ſive Gabianum*, *Ind. Med.* 90. It is found in many Countries, particularly in *Italy*, as alſo in great Plenty in *Britanny*, near *Beriers*, where it flows, mixed with Water, from the Cracks of the Rocks.

It eaſily takes Fire, and is in many Places burned in Lamps, inſtead of common Oil. In Medicine it is attenuant and reſolvent, good in hyſterick Caſes, given inwardly from ten to thirty Drops; and in Palſies externally uſed as a Liniment. We have little of it genuine in *England*; our Chymiſts having learnt a Way of adulterating it with the Oil of the cheapeſt of all *Bitumens*, the common Coal.]

11. *Of* China, *or* Indian Ink.

Pomet. *CHINA Ink* is a hard ſolid Paſte, which, according to ſome Authors, the *Chineſe* make of a black bituminous Earth, which they powder, and with Gum Tragacanth form into a Paſte, which they after make into little Sticks, and having marked them with ſome *Chineſe* Characters, they dry and ſell them as we have them. Others will maintain that it is made of a Black produced from the Smoak of Oil of Olives burnt; but as it is impoſſible I ſhould be able to determine of which it is compoſed, I will only remark, in the Choice of it, that the true genuine *Ink* of *China* is to be preferred to that of *Holland*, and is diſtinguiſhable from it, in that it is in ſmall ſquare Cakes of the Thickneſs and Length of one's Finger, and of a very black jet Colour, whereas the *Holland* kind is in flat Lumps, and of a greyiſh Black.

China, or *Indian Ink*, ſerves for Maps. In ſhort, it is very uſeful for all ſuch as mark or take Sketches in Black, being a portable Ink.

[*Indian Ink* is a nice Mixture of a peculiar ſort of Lamp Black, made by the burning fat Pork, and mixing its Soot into a Paſte with the Solution of Gums.]

12. *Of* Gun-powder.

Pomet. *GUN-powder* is a Compoſition of Salt-petre, Sulphur, and Coal made with Willow, or any other light Wood, which by means of Vinegar, and a Sieve, or any other Inſtrument full of Holes, is made into Corns big or little, or what Size you pleaſe: But I will not enlarge upon this, the Manner of making it being very well known; and by the bye, I would not adviſe any Merchant to deal in this Commodity, whoſe profeſſed Buſineſs it is not, it being too hazardous.

Lemery. *Sal Pyrium*, *Sal Bombardicum*, and *Pulvis Pyrius*, and *Bombardicus*, or *Gun-powder*, was a thing wholly unknown to the antient *Greeks* and *Arabians*, and therefore they have no Name for it. It is made in many Parts of the World, but moſt plentifully in *France* and *England*, and is compoſed of Salt-petre, Sulphur, and Wood-coal.

You are to chuſe good and pure Nitre, with fair and large Cryſtals or Shootings: If it be not good, you muſt purify it as we have before taught. This purified Nitre put into a Kettle, which ſet upon a Furnace with a moderate Fire, which gradually encreaſe to ſuch a Degree of Heat, till it begins to ſmoak and evaporate, loſe its Humidity, and grow very white; keep continually ſtirring it with a Wooden or Iron Ladle, whereby its Greaſineſs will be taken away; then pour ſo much Water into the Kettle as will cover the Nitre; and when it is diſſolved, and is brought to the Conſiſtence of thick Liquor, then with a wooden Stick or Ladle, keep continually ſtirring it without any Intermiſſion, till all its Humidity is again evaporated, and it be reduced to a moſt dry white Meal.

You ought alſo to chuſe the pureſt and beſt Sulphur; that which is in very great large Lumps, clear,

clear, perfectly yellow, not very hard nor compact, but porous, nor too much ſhining, is the beſt. If when it is ſet on Fire, it freely burns all away, leaving little or no reſident Matter, it is a Sign it is good. So alſo if you preſs it between two Iron Plates that are hot enough to make it run, if in running it appears yellow, and that which remains be of a reddiſh Colour, you may conclude it excellent, and fit for your Purpoſe; but if it be impure and foul, Powder-makers prepare it after this Manner. Melt your Sulphur in a large Iron Ladle or Pot, over a very gentle Fire of Coals well kindled, but not flaming, then ſcum off all that which riſeth on the Top, and ſwims upon the Sulphur; preſently after take it from the Fire, and ſtrain it through a double Linen Cloth, letting it paſs at leiſure: ſo will the ſtrained Sulphur be pure, which powder finely.

You ought alſo to chuſe Charcoal large, clear, free from Knots, well burnt, and cleaving; but if you be where it is not to be had, you muſt make it after this Manner: Cut down your Wood when it is full of Sap, and is apt to peel, *viz.* in *May* or *June*, and chiefly Hazel, or Aſh, or Juniper, *&c.* which cut into Lengths of two or three Feet long, of the Bigneſs of ordinary Billets, taking away the Rind and ſuperfluous Brances. Being very dry, make them into Bundles, and in a plain even Place, fit for that Purpoſe, ſet them upright one by another, and one upon another, cover them with Earth or Turf very cloſe, leaving only ſome few Vent-holes; then kindle the Fire, and when it is well lighted, and all in a red burning Heat, being reduced into burning Coals, ſtop up every Vent-hole for the Fire, cloſe with moiſtened Earth, ſo that there be not the leaſt Breathing-place. The Fire being thus extinguiſhed, the Coals will be pure and whole, without any Aſhes, and in twenty-four Hours after, you may take them out for Uſe. But for a preſent and ſmall Occaſion do thus: Cut the Wood into ſmall Pieces, dry them well, put them into a large earthen Pot, cover it all over the Top well with Clay, then make a good Fire round the Pot, gentle at firſt, but ſo as it may be made red-hot; covering it alſo all over with Fire, leaving it ſo for the Space of an Hour or more in that ſtrongeſt Heat; let the Pot cool of itſelf, and then take out the Coals for Uſe, which reduce into a fine Powder.

Of theſe Ingredients the Country People in the *Ukrain* in *Poland*, and the *Coſſacks*, make it with their own Hands, thus: They put their Proportions of *Nitre*, *Sulphur*, and *Charcoal* (being all in fine Powder) all together in an earthen Pot, upon which they put fair Water, then they boil it upon the Fire till all is evaporated, and the Matter becomes thick like Paſte, and taking it from the Fire they make it yet drier in the Sun, or in a Stove, or the like, till it is fit to corn; then they granulate it by paſſing it through a Hair Sieve, making the Grains of what Bigneſs they pleaſe; and this ſerves their rural Occaſions, as well as if it had been made by the moſt ſkilful Artiſt in the World.

But in order to the truly knowing and making of Gun-powder, it is fit that you ſhould firſt know the Kinds thereof, and then the different Strength of each. The Kinds are threefold; I. Cannon Powder; II. Muſquet Powder; III. Piſtol Powder; and of each of theſe there are two ſeveral Kinds, *viz. a ſtronger* and *a weaker*, all which Differences ariſe only from the various and differing *Proportions* of the above enumerated three Ingredients. The exact Limitations of which we come now immediately to declare.

	Cannon.	*Muſquet.*	*Piſtol.*	
Nitre	10.0	10.0	10.0	*Strong.*
Sulphur	2.5	1.8	1.2	
Coal	2.5	2.0	1.5	
Nitre	10.0	10.0	10.0	*Weak.*
Sulphur	2.0	1.5	1.0	
Coal	2.4	1.8	1.8	

The Preparations declared, I. *Cannon Powder*, 1. *The Stronger*. To every 100lt. of Salt-petre there is Sulphur 25lt. Charcoal 25lb. 2. *The Weaker*. To every 100lb. of Salt-petre, Sulphur 20lb. Charcoal 24lb. II. *Muſquet Powder*. 1. *Stronger*. To Salt-petre 100lb. Sulphur 18lb. Charcoal 20lb. 2. *The Weaker*. To Salt-petre 100lb. Sulphur 15lb. Charcoal 18lb. III. *Piſtol Powder*. 1. *The Stronger*. To Salt-petre 100lb. Sulphur 12lb. Charcoal 15lb. 2. *The Weaker*. To Salt-petre 100lb. Sulphur 10lb. Charcoal 18lb. as in the Table annexed, which are the Numbers, and in the ſame Proportion, but in leſſer Quantities or Decimals.

The Way of making it. All theſe Ingredients are to be finely powdered, and they are to be moiſtened with fair Water or Vinegar, or Spirit of Wine, or Water and Spirit of Wine mixt together, or Urine, which is moſt uſual; then let all be well beaten together for the Space of twenty-four Hours at leaſt, and then granulated after the following Manner:

You muſt prepare a Sieve with a bottom of thick Parchment made full of round Holes, and the

the former beaten Mass must beforehand be moistened with the following Liquor. ℞ *Spirit of Wine* ʒ xx. *Spirit of Wine Vinegar*, ʒ xij. *Spirit of Nitre*, ʒ iiij. *Spirit of* Sal Armoniack, ʒ ij. *Camphire*, ʒ j. *dissolved in Spirit of Wine, mix together for the Purpose aforesaid.* Or instead thereof, if all these Things cannot be had, with this, ℞ *Brandy*, xl. *Camphire* ʒ j. *mix and dissolve*; the Mass being made up into Balls as large as Eggs, put them into the Sieve, and with them a wooden Ball, so moved up and down about the Sieve that it may break the Balls of Powder: make all pass through the little Holes into Corns.

But in making of vast Quantities, to do it all by the Hand, would be a most tedious and slavish Work, and therefore Kings and the supreme Rulers of Countries have provided Mills for that Purpose, by Help of which they can do more in one Day than a Man can in an hundred.

You may make Powder of various Colours, if you so please, but then you must leave out the Charcoal, and put in as much for it of another Thing of the Colour you intend, which may be as apt to kindle or take Fire as Charcoal is; but for real Service, whether for War or Hunting, *&c.* the black Powder is much to be preferred; yet for Satisfaction Sake, we will give you the Directions for making *White Powder*.

White Powder. *Take Salt-petre*, 10 lb. *Sulphur*, lb j. *Saw-dust of Elder, or the like Wood, dried and powdered fine*, lb ij. *mix and make Powder by the former Directions.* Or thus: ℞ *Nitre* 10 lb. *Sulphurs* lb j ʃʃ. *dried and finely powdered, Saw-dust* lb ij. *mix and make Powder.* Or thus: ℞ *Nitre* 10 lb. *Sulphur*, lb ij. *Rotten Wood dried and powdered* lb ij. *Salt of Tartar*, ʒ iij. *mix and make Powder, to be kept close from the Air.*

This is also to be noted, that in making *Pistol Powder*, if you would have it stronger or more violent, you ought to stir it up several Times while it is in the Mortar, and moisten it with Water distilled from Orange or Lemon-peels in an Alembick, and then beat it for twenty-four Hours, as aforesaid.

Moreover, you ought to know, that Powder, when it is corned, is of much greater Force and Power than when in Dust or Meal; and from hence it is concluded, that the larger Grains are stronger than the smaller, and for that Reason Cannon Powder is granulated larger than Musket, and Musket than Pistol; and therefore being put into Ordnance, Muskets, or Pistols, it ought not to be forced or beaten so home or hard into the Piece, as to bruise the Grains, lest it thereby lose much of its Strength.

To know the Goodness of Gun-powder. It is tried three Ways, by Sight, by Touch, and by Fire. *First by Sight*; If it be too black, it is too moist, or has too much Charcoal in it; so also if rubbed upon white Paper, it blacks it more than good Powder does. If it be of a kind of Azure Colour, or a little obscure, something bordering upon red, it is a Sign of good Powder.

Secondly by Touching; If in crushing of it with your Fingers Ends the Grains easily break and turn to Dust, without feeling hard, it has too much Coal in it. If in pressing under your Fingers upon a smooth hard Board, some Grains feel harder than the rest, or as it were dent your Finger's End, or very hardly yield to pressing, the Sulphur is not well mixed with the Nitre, and the Powder naught.

Thirdly by Burning; Lay little Heaps of Powder, three Inches or more asunder upon white Paper, and fire one of them; if it only fires and burns all away, and that suddenly, almost imperceptibly, without firing the others, and makes a small thundering Noise, and a white clear Smoak rising in the Air, almost like a Circle, the Powder is very good: But if it leaves black Marks behind it, it has too much Coal in it, or is not well burnt. If it leaves a Greasiness behind it, the Sulphur or Nitre are not well cleansed or ordered as they should be. And if two or three Corns of Powder be laid upon a Paper an Inch asunder one from another, and you put Fire to one of them, and they all fire at once, leaving no Sign behind but a white smoaky Colour in the Place, and the Paper not touched, the Powder is good; so also if fired in your Hand, and it burns it not; but if black Knots, which burn downwards in the Place where Proof was made, remain after firing, it is not strong enough, but wants Nitre.

BOOK V.

Of *STONES.*

PREFACE.

I mean by the Word Stone, *a ſolid and hard Body that will not melt in the Fire, or be extended under the Hammer, formed in the Earth by Courſe of Time, being a kind of* Mineral. *I ſhall divide Stones, the Subject of this Book, into two Claſſes; to wit, into Precious and Common Stones. By precious Stones I underſtand thoſe that are dear, either becauſe they are ſcarce, or that they come from far diſtant Parts, and ſuch as are very hard, ſmall, and ſparkling. And by the Common, I mean ſuch as are of little Value: I ſhall begin with the* Hyacinth, *or* Jacinth, *as being the fineſt of all thoſe we deal in, and of which we make the moſt Uſe. And by the way, the* Reader *may be pleaſed to take Notice, That I ſhall only ſpeak of ſuch as we deal in, not meddling with the fine* Stones *the* Jewellers *and* Lapidaries *trade in.*

1. *Of the* Hyacinth, *or* Jacinth.

Pomet. THE *Hyacinth* that is uſed in Medicine, is a Stone of which there are three Kinds, to wit, the *ſoft milky Hyacinth*, which is a little Stone of the Size and Figure of a moderate Grain of Salt, very tender, and of the Colour of Milk, from whence it derives its Name. The Second is a reddiſh Stone without and within, cut naturally like a Diamond Point, found very frequently in *Poland*, *Bohemia*, *Sileſia*, and *Italy*: Some of this kind is often met with white mixed with yellow, red, or other Colours; but theſe different Sorts are not uſed by any, but ſuch Apothecaries and Huckſters, as only conſider the Cheapneſs, or do not know them from others; they ought to be entirely rejected, being nothing but a ſort of Sand; as alſo another ſort of falſe *Hyacinths*, that are little Stones about the Bigneſs of a Pin's Head, of a ſhining red, that are very common in ſeveral Parts of *France*, but chiefly in *Auvergne*, which are what we call *Jargons*, or *falſe Hyacinths*: Wherefore thoſe that would have the *Jacinth* for the Confection that bears its Name, and is after deſcribed, muſt uſe no other than the *milky Hyacinth*, as being the true Oriental, and fit for medicinal Uſe: it requires no other Preparation than to be ground to an impalpable Powder.

Of the Confection *of* Hyacinth.

The *Confection* of *Hyacinth* is a liquid and cordial Electuary made of *Hyacinth*, red Coral, Bole from the *Levant*, ſealed Earth, of each four Ounces and a half; Grains of *Kermes*, Dittany of *Crete*, *Tormentil* Root, Citron Seed, Saffron, Myrrh, Provins Roſes, Sanders, the Bone of a Stag's Heart, Shavings of Harts-horn and Ivory, Sorrel, and Purſlain Seed, of each ten Drachms and two Scruples; of Sapphire, Emerald, Topaz, fine Pearl, raw Silk, Gold and Silver Leaf, of each five Drachms and a Scruple; Muſk and Ambergriſe, of each two Scruples; powder all the Drugs, and grind the Stones on a Porphyry, then make them into an Electuary with Syrup of Lemons. Thoſe who deſire to know further of it, let them conſult Monſieurs *Charas* or *Bauderon's Diſpenſatories.* The Confection of *Hyacinth* ought to be of a good Conſiſtence, freſh and faithfully prepared, of a reddiſh Colour upon the Yellow: Thoſe that prepare this Medicine ought not to put in Muſk and Ambergriſe, except by the Direction of the Phyſician; becauſe the greateſt Part is uſed by the Women, and thoſe Perfumes are very improper for that Sex, eſpecially in any hyſterical Caſe. This Confection is much preſcribed, becauſe of its good Qualities in fortifying the Heart, reſiſting of Poiſon, *&c.* and it is of the

ſame

ſame Nature with Confection of *Alkermes*, being much uſed in the *Lionnois*, *Provence*, and *Languedoc*, where you meet with few People without a Pot of this *Confection*, or of *Alkermes*, or *Treacle*, about them, of which they take a ſmall Quantity every Morning. The Dearneſs of this Medicine, and the Demand for it, is the Reaſon that you have a thouſand Sophiſticators of it, who do it ſo groſly and ſcandalouſly, that they afford you no better than Honey, Bole, Myrrh, and ſome Leaf Copper for this Confection, and ſometimes a little Baſtard Saffron; therefore the beſt Way is never to meddle with this except you have it from an honeſt and reputable Dealer.

Hyacinthus, ſive Lapis Hyacinthinus, Lemery. the *Jacinth*, is a precious Stone, of which there are a great many ſorts that differ in Size and Colour; for ſome are as ſmall as a Grain of Salt, of a white Colour, and this Kind is called the *ſoft milky Hyacinth*, which is the oriental; others are as big as Peas, very hard, of a red Colour, inclining to the yellow, bright, and reſplendent. The Oriental are to be preferred to thoſe of *Sileſia* and *Bohemia*, they are known by their Bigneſs, their Beauty, and their Hardneſs; the Oriental exceed not the Size of a Pea, and are finer and more brilliant than the *European* kind. There are others much about the ſame Size, of a yellowiſh Colour, almoſt like Amber; ſome are white, partaking of red or yellow, and ſeveral other Colours; others are as ſmall as Pins Heads, of a bright Red: This laſt kind is found in ſeveral Parts of *France*, and particularly in *Auvergne*; all the ſorts are very cordial and reſtorative; Doſe half a Scruple.

[The *Hyacinth*, or *Jacinth Stone*, is the *Hyacinthus*, *Charlt. Foſſ.* 38. *Mont. Ex.* 14. *Worm.* 104. It is of various Colours; as red, yellow, and whitiſh; the yellow are the leaſt eſteemed of all.

Many ſuperſtitious Virtues have been aſcribed to this Stone, but at preſent it is in no Eſteem.

The *Hyacinth* of the Antients, according to *Pliny's* Account, was different from this of ours, as it was of a ſhining Violet Colour, and like the Amethyſt: But all the Shades we have in the Colour of the modern *Hyacinths*, are between red, pale, yellow, and white, without the leaſt Tinge of blue.]

Of the Topaz-ſtone.

Pomet. THE *Topazes* that are uſed in Phyſick are Stones of different Magnitude, very heavy and tranſparent, altogether reſembling the *Muſcovy* Glaſs found in the Plaiſter of *Mont Martre:* This Stone is found in the *Eaſt* and *Weſt-Indies*, *Bohemia*, and *Germany*. The *Topaz* needs no other Preparation for Medicine than to be ground with Roſe-water on a Marble like *Hyacinth* and other precious Stones.

The true *Topaz* of the Antients, which was afterwards called a *Chryſolite*, is a tranſparent Gem, of a pale green Colour, that ſeems to have ſome Yellowneſs, or a Gold Colour in it, very glorious; ſome will not have this to be properly the *Topaz*, but rather the *Chryſolite*, or Mother of the *Emerald:* It is reported to be good againſt *Hæmorrhages*, and all manner of Fluxes of Blood; as likewiſe to ſtop Bleeding. This Gem is ſo hard that the File cannot touch it. It has been a Stone of great Eſteem and Value, not only for its own Glory and Brightneſs, but for its ſacred Uſe recorded in Scripture. It is ſometimes counterfeited with double Cryſtals or diaphanous Stones, with a proper green Foil interpoſed, and being thus ſet in Incloſures, with a like Foil underneath, the Cheat will be hard to diſcover.

Topazius, Chryſolithus, Chryſopatius, the *Topaz*, is a tranſparent precious Stone, of a greeniſh Caſt, mixed with a little Yellow, ſhooting forth golden Rays. There are two ſorts of it, the oriental and occidental: The firſt ſort is harder, finer, and more valued. We have them brought from *Arabia*, *Æthiopia*, and about the *Red Sea*. It is ſaid they grow among the Alabaſter, and ſome pretend them to be the Mother of the *Emerald*, becauſe theſe two Stones are ſomething like one another in their Colour. The ſecond ſort are found in *Bohemia*, and are larger than the Eaſtern kind, but not ſo beautiful. *Lemery.*

[There are two kinds of the *Topaz*, the *Topazius* and *Chryſolithos*, which are much confounded among Authors. But the true Account of them is, that the *Topazius* of the Antients is what we, at this Time, call the *Chryſolite*; and what they called *Chryſolite*, we now call the *Topaz*.

The firſt is the *Topazius veterum, quem recentiores perperam vocant Chryſolithon, De Laet.* 46. *Chryſolithos Modernorum, Worm.* 106. *Topazius Veterum, Boet.* 207. This is what we now call the *Chryſolite*; and what the Antients called the *Topaſius*, or *Chryſopaſius*. It is a Gem of a green Colour, but fainter than that of the *Emerald*, and mixed with a Yellowneſs: The blended Rays of which two Colours in ſome Lights give the whole a reddiſh Colour.

The ſecond is the *Topazius neotericorum veterum Chryſolithos, Worm.* 106. *Chryſolithos veterum, De Laet.* 49. *Mont. Exot.* 14. *Boet.* 210. This is what we now call the *Topaz*; but what the Antients called the *Chryſolite:* it is a pellucid Gem

of a ſhining yellow Colour, and is of two kinds, the oriental, which is of the Colour of the pureſt Gold, and very hard; and the *European*, which is ſoft like Cryſtal, and has often a greater or leſs Mixture of black in it.

Both theſe Gems have had great Virtues aſcribed to them, but they are now never uſed.]

3. *Of* Emeralds.

Pomet. THE *Emerald* is a greeniſh Stone that is found in different Parts of the World; as *Æthiopia*, *Egypt*, *Perſia*, and both the *Indies*. The higheſt prized, or moſt valued *Emeralds*, are thoſe called the *Prime Emeralds*, in that they are commonly pure and neat, that is to ſay, of a fine beautiful Green, inclining to the Blue. There is ſome Appearance that *Emeralds* are found in Iron Mines, becauſe I have ſeen where the Iron has ſtuck to them. It is by ſome affirmed, that the *Emerald* takes its green Colour in the Mine, according to the Degree of its Perfections, as Fruits ripen upon the Trees; which I cannot confirm, having never ſeen the Truth of it. They are ſeldom found genuine with the Druggiſt, therefore ſhould be bought of the Lapidaries.

Some Authors have made twelve Kinds of *Emeralds*, as the *Scythian*, the *Bactrian*, *Ægyptian*, *Cyprian*, *Attick*, *Æthiopick*, *Medick*, *Calcedonian*, *Samian*, *Sicilian*, *Laconic*, and *Cyprian*, or *Chalco-ſmaragdus*; to which of late has been added a thirteenth, called the *Smaragdites*, or *Baſtard Emerald*. This Stone has been of great Eſteem, not only for its Glory, but the Uſe it was applied to, being ſet in the Breaſt-plate of Judgment.

The *Smaragdo-Praſinus*, *Smaragdites*, or *Baſtard Emerald*, is a tranſparent green Gem, of a mixed Beauty, between a *Praſinus* and an *Emerald*. Being compared with the *Praſinus*, it has the Greenneſs of Graſs, without Yellowneſs; but being compared with the *Emerald*, it has a yellowiſh Greenneſs, which is not in the *Emerald*. It is ſeldom perfectly tranſparent, becauſe of ſome Clouds in it, and is of two kinds; firſt, the *Bohemian*, which is almoſt tranſparent; and, ſecondly, the *American*, which is but half tranſparent. This Stone is ſaid to be diuretick, expels Gravel, hinders the breeding of the Stone, and eaſes Pains of the Kidneys, and the Gout.

Lemery. *Smaragdus*, *Praſinus*, or the *Emerald*, is a fine, green, precious Stone that is diaphanous, ſhining, reſplendent, but moderately hard. There are two kinds, one oriental, and the other occidental. The firſt ſort is harder, finer, and more eſteemed. It repreſents by its agreeable Colour and Pleaſantneſs the Verdure of the Field, and fills the Eye with a ſudden glaring Light: It is brought from the *Eaſt-Indies*. The ſecond ſort may be diſtinguiſhed into two kinds, *Peruvian* and *European*; the *Peruvian* ſhews a very fine, pleaſant, green Colour, but does not ſhoot its Rays like the oriental, and is ſometimes filled with little greeniſh Clouds. Theſe are plentiful in *Peru*, and pretty large. The *European* ſort is not ſo hard or reſplendent, and the leaſt valued of all. They are found in *Cyprus*, *Great Britain*, and ſeveral other Places. The Weſtern are generally much larger than thoſe of the Eaſt; for they are ſometimes met with as big as the Palm of a Man's Hand. Both kinds are proper to ſtop the Flux of the Belly, and Hæmorrhages, to ſweeten the too acrid Humours, being finely powdered, and taken inwardly; the Doſe from ſix Grains to half a Drachm.

[The *Emerald* to be uſed in Medicine is the *Smaragdus*, *Kentm.* 47. *De Laet.* 33. *Charlt.* 38. It is of a glorious Green, but more brittle than any of the other Gems. If thrown upon a clear Fire, it emits a fine Flame, and totally loſes its Colour; which is a Proof that its Colour depends on a Sulphur, which is ſeparable from it without deſtroying its Subſtance; for the Stone ſtill remains hard and tranſparent, though Colourleſs like Cryſtal.]

4. *Of* Saphirs.

Pomet. WE ſell two ſorts of Fragments of *Saphirs*, to wit, the red and the blackiſh. They are of the Size of a Pin's Head, extremely hard, and therefore difficult to bruiſe or pound. The red, which are uſually of the Colour of Wine, ought to be employed for phyſical Uſes; for as to the blackiſh Fragments of *Saphirs* they are rather like Ruſt of Iron than a precious Stone, and turn the Confection of Hyacinth black when put into it. Some ſubſtitute in the Room of the red Fragments of oriental *Saphirs*, thoſe little Stones, very common in *Holland*, that we call *Vermeilles*, or ſmall *Granats*, which beware of, though it is not difficult to diſtinguiſh them, becauſe the true *Saphirs* Fragments are of a very fine, clear, tranſparent Red; which are contrary to the *Granats*, that are of a very deep Red.

Lemery. *Saphirus*, *vel Sapphirus*, or the *Saphir*, is a fine, precious, brilliant, diaphanous, reſplendent Stone, of which there are two ſorts, one called the Male, the other the Female. The Males are of a pale blue, or a Water of the Diamond Luſtre. Theſe laſt are called white, or Water *Saphirs*; they are leſs enquired after than the blue. The Female *Saphirs*

phirs are of a deep blue; these are more valuable, and especially such as come from the *East-Indies*; as *Calecut*, *Pegu*, *Bisnagar*, and *Zeilan*. They are found likewise in several Parts of the Western World, as on the Borders of *Bohemia* and *Silesia*; but they are neither so perfect nor fine as the Oriental.

They use in Physick the Fragments or Pieces which the Lapidaries cut off from the *Saphirs*, which are much about the Size of large Pins Heads, reddish or blackish; but the red are preferred, because the black are full of Iron Stone; we may perceive they have some Analogy to the Load-stone, for they will be attracted like Iron. There are a great many Virtues attributed to the *Saphirs* which they have not; as the fortifying the Heart and other noble Parts, purifying the Blood, resisting of Poison. Their true Properties are to stop Fluxes, sweeten the Blood, and dry up Ulcers of the Eyes.

[The *Saphir* is the *Lapis Saphirus*, *Matth.* 1387. *Saphirus*, *Aldr. Mus. Met.* 971. *Kentm.* 48. *Charlt. Foss.* 38. It is a very hard Gem, of a beautiful Sky-blue, which, as it is deeper or paler, makes the Distinction of Male and Female *Saphirs*, as they are called. The *Saphir* comes neareſt the Diamond in Splendor, Transparency, and Hardness; and there is a kind of it wholly pale, which is sometimes made to pass for a Diamond, but it is neither quite so hard nor so brilliant. The finest *Saphirs* are the Oriental, which are brought principally from the Island of *Ceylon*. The *European* are found in *Silesia* and *Bohemia*. The *Saphir* loses its Colour like the *Emerald* in the Fire, and then looks very like a Diamond.]

5. *Of the* Ruby.

Pomet. THE *Rubies* are likewise little reddish Stones that are brought us from the *East-Indies*, and are of very little Use in Physick, for which Reason I shall say nothing of them, nor of a great many others which we sometimes sell, the Names of which are subjoined, referring the Reader to a Book, entitled, *The Perfect or Compleat Jeweller, or, The History of precious Stones*, composed by *Anselmus Boetius de Boot*, Physician to the Emperor *Rodolph* the Second; or to the *Indian Mercury*, made by *Rosnel*. The precious Stones we have, besides those mentioned before, are the *Diamonds*, the *Amethysts* of *Auvergne* and *Cartagena*, the *Agats*, the *Berils*, the *Sardius*, the *Granats*, the *Malaquits*, and several sorts of Marble, *Florence* Stones, *&c.* And as I have seen the vast Difference betwixt the Stones that we sell, and the fine Stones the Lapidaries use, I advise all those who would make the Confection of *Hyacinth*, to take rather the Chippings of the fine Stones, than fancy he can buy better at the Druggists. I am, however, of the same Opinion with those who allow no other Virtue in all the precious Stones, than to absorb Acids.

Rubinus, *Carbunculus*, *Pyropus*, *Anthrax*, the *Ruby*, or *Carbuncle*, is a fine, diaphanous, precious Stone that is very hard, and resists the File. It is resplendent, and of a Colour as red as Blood, mixed with a little Tincture of blue. There are several kinds of it; but the finest, hardest, and most valuable, is that from *Zeilan* in the *Indies*. There are some likewise in *Gambaya* and *Bisnaga*; but these are not so fine. *Lemery.*

There is assigned to the *Ruby* the Virtue of resisting Poison, strengthening the Vitals, driving away Melancholy, restoring of lost Strength; but we know by Experience it has no other Quality than that of an Alcali Powder, that sweetens the Sharpness of the Humours, and breaks their Points, and consequently stops the Flux of the Belly; Dose from half a Scruple to two Scruples. It is called *Rubinus* from its red Colour, and *Carbunculus* from its Reflection, looking like a red-hot Coal of Fire.

[The *Ruby* is the *Carbunculus*, *sive Rubinus*, *Aldr. Mus. Met.* 957. *Rubinus verus*, *Boet.* 144. *Carbunculus*, *Kentm.* 50. It is a pellucid Red Gem, extremely hard, found in greatest Perfection in the Island of *Ceylon*. It is divided, on Account of its Degrees of Splendor, into four kinds, the *Pyropus*, *Balasius*, *Rubicellus*, and *Spinaleus*. But as those Distinctions are of no Use in a Work of this kind, I shall not enlarge on them.

This, like the rest of the Gems, has had many great Virtues ascribed to it; but the present Opinion is, that they have no other than those of all alcaline Absorbents: however perhaps, it is too rash a Censure, and our Stomach may act upon them, as Fire does, separating their Sulphurs, in which their Colour consists; and those Sulphurs may, for ought we know, be able, notwithstanding their small Quantity, to do great Things, as indeed it is a very idle Thing to judge of the Force of a Medicine by its Quantity, the most powerful of all generally acting in the smallest.]

6. *Of* Lapis Lazuli, *or the* Azure Stone.

Pomet. THE *Azure Stone*, which is commonly called *Lapis Lazuli*, and by some *Lapis Cyaneus*, and *Lapis Stellatus*, is a heavy Stone of a Sky-blue, sometimes full of Rock Stone, and frequently streaked with Veins of Copper, which the Antients, and some Moderns, have thought

thought to be Gold. The greateſt Part of this Stone that we have, comes from *Perſia* and the *Eaſt-Indies*; ſome affirm that it is uſually found in Gold Mines, and that it is a *Marcaſite* of that Metal: However it is certain that this Stone is got out of Quarries, as other Stones are here, which is the Reaſon we have it of all Sizes; the *Lapis Lazuli*, to be perfect and fit for making the *Ultra-marine*, which is the chief Uſe it is put to, except the fine Works made of it, ought to be heavy, of a deep Blue, like fine Indigo, with as few Copper or ſulphureous Veins as poſſible, and take Care it be not rubbed with Oil Olive, in order to make it appear of a deeper Blue; but the Cheat is not hard to diſcover, becauſe it ought to be of as fine a Blue within as without; likewiſe refuſe ſuch as is full of Stones, and the pretended Veins of Gold; for that, when it is burnt to make *Ultra-marine*, will ſtink extremely, having a ſulphureous Smell, which ſhews that its Veins proceed not from Gold.

There is an Error ſome People are guilty of, in believing, as ſome have pretended, that this Stone, when fine, will encreaſe its Weight in the Fire: This is certain, that the finer this Stone is, it will loſe the leſs in the Fire; and that there is ſome of it that loſes ſo little that it is not worth ſpeaking of; but let it be never ſo good, it will always loſe ſomething; ſo far is it from being encreaſed in Weight: You ought to put the Stone into the Fire to ſee if it be good, for if ſo, it will not change its Colour for being heated hot. The Choice of this Stone is quite other than has been deſcribed by others, who ſay, that that which is full of yellowiſh or golden Veins ought to be moſt valued; which I maintain to be falſe, ſince the more it is ſo, the leſs it is eſteemed, eſpecially by thoſe who uſe it to make *Ultra-marine*. You muſt beware that it be not a greeniſh Stone, very common in *France*, which is found about *Toulon*; or that it be not a counterfeit Stone, made up of Tin and *Zaffre*, as has been obſerved in the Chapter of *Enamels*. This Stone is of ſome Uſe in Medicine, becauſe it is put into ſeveral Galenical Compoſitions, as Confection of *Alkermes*, *&c.* There are Authors who attribute great Virtues to this Stone, and amongſt others Monſieur *Demeuve*, to whom the Reader may have recourſe; and there are ſeveral others who ſay that *Lapis Lazuli*, and the *Armenian* Stone, are almoſt alike, which will be found to be falſe, as you will ſee in the next Chapter.

Of Ultra-marine.

Pomet. *Ultra-marine* is, properly ſpeaking, a *Precipitate* made from *Lapis Lazuli*; ſome ſay it took its Name of *Ultra-marine*, from being made beyond the Seas; the firſt of the kind coming from *Cyprus*; but others will have it that the Name was given it becauſe this Blue is much more beautiful than that of the Sea. A Friend of mine aſſured me that the firſt *Ultra-marine* was made in *England* by one of the *Eaſt-India* Company there. You ought to chuſe that which is of the higheſt Colour, well ground, which is known by chewing of it betwixt the Teeth; if it is gritty, it is a Sign that it is not well ground: And to diſcover if it is genuine and not ſophiſticated, heat a little of it red-hot in a Crucible; if its Colour is not changed, it is the true; for if it is adulterated there will be black Spots in it: Its Uſe is for Painting in Oil and Miniature. The manner of preparing *Ultra-marine* is deſcribed in ſo many Books, I thought it needleſs to repeat it here; I ſhall only ſay, that thoſe who prepare it make it into four ſorts, which proceeds from nothing elſe but the different Waſhings of the Powder, whereof the firſt is abundantly more beautiful than the others.

Lapis Lazuli, *Lapis Cyaneus*, *Lapis Cæruleus*, or the *Azure Stone*, is of different Sizes and Figures, being opake, heavy, and of a blue Colour, intermixed with Streaks of Gold and Copper: It is found in Quarries in the *Eaſt-Indies*, and in *Perſia*, and ſome ſay in the Gold Mines; its Uſe is chiefly to make *Ultra-marine* of, for which Purpoſe chuſe the cleaneſt, weightieſt, of the higheſt Colour, and beſt Blue; it contains a great deal of Sulphur and Salt. To make *Ultra-marine*, they calcine this Stone, and grind it fine on a Porphyry, and mix it up in a Paſte made of fat Pitch, Wax, and Oil; then they waſh this Paſte well to ſeparate the blue Part, which precipitates to the bottom in a very beautiful Powder; they pour off the Water leiſurely, and dry this Powder, which is for the Painters Uſe. *Lapis Lazuli* prepared purges melancholy Humours, fortifies the Heart, and is uſed in the Confection of *Alkermes*; the Doſe from half a Scruple to a Drachm. There is found near *Toulon* in *France*, in *Germany*, and ſeveral other Parts of *Europe*, a falſe or Baſtard *Lapis Lazuli*, that is greeniſh and thicker, which is employed for common Uſes. *Lemery.*

[The *Azure Stone* is the *Lapis Lazuli*, *Worm.* 65. *Charlt. Foſſ.* 27. *Cæruleus Lapis*, *Matth.* 1354. *Lapis Cyaneus*, *ſive Lazuli*, *Ald. Muſ. Met.* 870. *Cæruleum Nativum*, *Wood. Att. T.* ii. P. 1. p. 42. It is an opake hard Stone, of the Colour of the *Saphir*, with gold-coloured Specks and Veins, and is harder than the *Armenian* Stone. It is found in Gold and Copper Mines, and is of two kinds, the Oriental, which is brought chiefly from *Aſia*

and *Africa*, and ſtands the Fire without loſing its Colour. Of this the *Ultra-marine* is made; and the Occidental, found in *Germany* and *Italy*, which loſes its Colour by Fire, or by Age, or many other Accidents, and in time turns green. The blue Colour of this Stone is owing to ſome Particles of Copper it contains; and in Medicine it is accordingly emetick and purgative. The Antients alſo acknowledged a ſtyptick Virtue in it; for which Reaſon they gave it a Place in the Confection of *Alkermes*, *&c.* And certain it is, that no ill Effect ever appeared from the taking that Medicine, while it was a conſtant Ingredient in it. However, as it cannot well be ſuppoſed to add any thing to the Virtues of it, it is at preſent left out of it in the College Diſpenſatory.]

7. *Of the* Armenian Stone.

Pomet. THIS is a little Stone uſually of the Size of a Bullet, of a greeniſh Blue without and within, adorned with ſmall white gliſtering Sparks riſing beyond its Surface, like Spar, or ſmall Diamond Sparks. They attribute great Virtues to this Stone, as that it is good to cure the *Falling-Sickneſs*, *Melancholy*, and the like. This Stone is ground and waſhed to free it from the Spar and little Sparkles, which look like Gold, though they are only Sand; and afterwards dried and brought to us by the Name of *Powder Green*, or *Verditur*; which is uſed by the Painters, but more eſpecially by thoſe, who, to encreaſe their *Mountain Green*, mix equal Parts of both together to make it come cheaper, that ſo they may get more Money by it; for which Reaſon never buy any *Mountain Green* but of Perſons you can truſt, and ſuch as has the Marks I gave, when treating of it; and when put upon Paper, ſtains it not, but is like Sand, which is a Sign it is not mixed with *Verditer*. We ſell ſeveral ſorts of *Verditers*, which have no other Difference but according to the Preparation given them; the fineſt ſort ought to be very dry, fine, and of a high Colour.

Lemery. *Armenus Lapis*, *ſeu Lapis Armenis*, *ſeu Melochites*, the *Armenian Stone*, is of different Shapes and Sizes, but moſt commonly round, uneven, rough, as big as a Nut, of a Mixture of Colours, blue, green, white, *&c.* It is brought from *Armenia*, whence it derives its Name; but at preſent it is alſo found in *Germany*, as in the County of *Tyrol*; it differs from *Lapis Lazuli*, in that it is not ſo blue, but fuller of a droſſy Stone and other Impurities; and that this is taken from the Silver Mines, whereas the other is found in the Gold Mines. Chuſe that which is of the deepeſt Colour. They grind this Stone and waſh it, to ſeparate the finer Parts, or the Sand which ſhines like Spangles of Gold; and when dried, they ſell it by the Name of *Verditer*, for the Painters Uſe. This *Armenian Stone*, prepared, is deterſive and deſiccative, or drying, being outwardly applied; and inwardly purges melancholy Humours; it is good for the Epilepſy, *&c.* the Doſe from a Scruple to a Drachm.

[The *Armenian Stone* is the *Lapis Armenus*, *Worm.* 66. *Charlt. Foſſ.* 27. *Armenium*, *Aldr. Muſ. Met.* 351. Copper Ore of a Sky or pale blue Colour, *Woodward.* This is principally found in Silver Mines. It is an opake ſoft Subſtance of the *Lapis Lazuli* kind, with gold-coloured Specks and Spots of green, bluiſh, and black: It is of the ſame Virtues with the *Lapis Lazuli*, as containing the ſame Principles, but is more ſtrongly purgative. The Painters make of it a very fine Blue, with a greeniſh Caſt.]

8. *Of* Smalt, *or* Powder Blue.

Pomet. SMALT is either a Compoſition, or a Stone pulverized, which we have from *England* and *Roüen*, whither it is brought by the *Swedes*, *Hamburgers*, and *Danes:* The greateſt Part of this *Smalt* comes from *Dantzick* in *Poland*, as well as ſeveral other Colours, with Zink and Tin-glaſs; but this being a Trade known but to few People, thoſe who deal in theſe Commodities directly from *Dantzick*, are able to ſell cheaper than thoſe who trade from *Holland*, *England*, or *Roüen*. After all the diligent Enquiries I could make, I have found it impoſſible to find out what this *Smalt* is, ſome aſſuring me that it was a Compoſition made at *Roüen*; but as thoſe who made it kept it as a Secret, I never could diſcover of what it was. It ought to be very fine, of a deep Colour, and as dry and like to *Ultra-marine* as poſſible; its Uſe is for the Painters.

Lemery. *Smalt*, or *Cinis Cæruleus*, is either a powdered Stone, or elſe a Compoſition of a blue Colour; which is brought from *Poland*, and is uſed by Painters.

[*Smalt* is the *Encauſtum Cæruleum*, uſed by the Painters, *&c.* It is made of *Cobalt*, Pot-aſhes, and Flint-ſtones, or Sand, melted together into a vitreous, opake, bluiſh Maſs, and afterwards ground to Powder in Mills. The greateſt Quantity is made in *Saxony* and *Germany*: It is never uſed in Phyſick.]

9. *Of the* Jaſper.

Pomet. THERE being various ſorts of *Jaſpers*, ſuch as the Green, the Purple, *Cerulean*, *Aurora*, or Cryſtal-like, I ſhall ſpeak only of that

that which is ſold in the Shops, which is the *green Jaſper*; and if it had not been of ſome ſmall Uſe in Medicine, I ſhould not have ſpoken of it. Being a very precious Commodity, it is very liable to be counterfeited in Glaſs. Chuſe ſuch Pieces as are of a fine deep Green, ſmooth, and ſhining, full of red Spots, as if they were little Drops of Blood, and which can take no Impreſſion from the Point of a Needle drawn upon them; which is a Sign that they are truly Oriental. Some People affirm, that the green Jaſper is very proper to cure the Epilepſy, and that it is a good Cordial. It is prepared as the *Hyacinth* and other precious Stones.

Jaſpis, the *Jaſper*, is a fine, hard, ſmooth, reſplendent, precious Stone, which differs little from the *Agate*, only that it is not ſo hard and pure: There are a great many kinds of it, but the Oriental is the beſt. It ought to be very hard, of a deep Green ſpotted with red; and it is of ſome Uſe in Phyſick, ground fine upon a Porphyry. The prepared Powder is aſtringent, proper to ſtop Blood and the Scour of the Guts. Great Virtues are aſſigned it in the Epilepſy, alſo to ſtrengthen the Stomach, and bring away the Stone in the Kidneys, *&c.* *Lemery.*

[The *Jaſper* uſed in Medicine is the *Jaſpis*, *Boet.* 250. *De Laet.* 79. *Charlt. Foſſ.* 32. It is an opake Stone, of a mixed Green, with Spots of Red like Blood: It is found in the *Eaſt-Indies*, and is ſuppoſed to have the ſame Virtues with the *Cornelian*, which are, the ſtopping Hæmorrhages, and remedying the Effects of Poiſons; but theſe are both ſuppoſed imaginary, and neither of the Stones ever now uſed in Medicine.]

10. *Of the* Jade Stone.

THE *Jade* is a greeniſh Stone, inclinable to Grey, extremely hard, and very rare. This Stone is little uſed in Phyſick, but pretty much in ſeveral ſorts of Works that are very valuable, it being very difficult to cut. The *Turks* and *Poles* uſe a great deal of *Jade* to make Handles for their Knives, Sabres, Swords, and other Things, which they adorn with Gold. The Oriental is the fineſt *Jade*. *Pomet.*

Jade is a very hard Stone, of a greeniſh grey Colour. The fineſt comes from the *Eaſt-Indies*. The *Turks* and *Poles* make ſeveral Uſes of them, and it is difficult to work becauſe of its exceſſive Hardneſs. Some pretend, that applied to the Region of the Kidneys, they are proper to bring away Stone and Gravel; but I can give no Credit to ſuch Remedies. *Lemery.*

[The *Jade* is the *Lapis divinus*, *Boet.* It is a Stone very like the *Lapis Nephriticus*, but extremely hard; it is much uſed in ſome Parts of the World for Toys, but has never, I believe, been given inwardly, though in common Uſe among the ſavage *Indians* as an Amulet.]

11. *Of the* Nephritick Stone.

THE *Nephritick Stone* is a greyiſh Stone, with a little mixture of Blue in it, ſo that it is uſually of a bluiſh grey Colour, being fat and oily like *Venetian Talck*. This Stone is much valued by certain Perſons for the Cure of the Gravel, which makes it ſo ſcarce, and ſo much enquired after. It performs its Buſineſs by hanging about the Thigh of thoſe who are troubled with the Stone or Gravel in the Kidneys, from whence it is called the *Nephritick Stone*. The Dearneſs and Rarity of this Stone is the Reaſon why ſome ſubſtitute in its ſtead a kind of green Marble of *Italy*, called *Malaquitte*, and cut and carve it like a Bird's Head, becauſe the Antients believed that the true *Nephritick Stone* reſembled a Bird's Head, or the Beak of a *Perroquet*. The true Nephritick Stone comes from *New Spain*, and whoever would know further of it may read Mr. *Worms*, who has writ a large Deſcription of it, too long to be inſerted here. *Pomet.*

Lapis Nephriticus, or the *Nephritick Stone*, is of different Sizes, pretty hard, opake, of a bluiſh Grey or Aſh-colour, but ſometimes mixed with White, Yellow, or Black, and is not perfectly ſmooth, becauſe it is unctuous like *Talck*. It is found in *New Spain*, ſometimes with the *Jaſper*, and ſometimes alone. Some reckon it among the kinds of Jaſpers, making no great Difference, but only that this is the harder: For the moſt part they are found like Whet-ſtones, in the Fields in great Lumps, ſo big, that a Cup may be made of them. *Carolina* affords pretty large ones, about eight Inches long, three broad, and two thick; and of an aſh-coloured Green: They are likewiſe gathered in *Bohemia*, and ſeveral Parts of *Spain*; but theſe are not ſo much eſteemed as what come from *America*. *Lemery.*

This Stone has the Property to eaſe the Stone Cholick, to break the Stone in the Reins, and expel Gravel by Urine, being hung about the Neck, Thigh, or Arm: Some preſcribe it to be taken inwardly, from four to fifteen Grains. Of latter Years there is brought into Uſe for the ſame Diſeaſes, a brown, ſmooth, ſhining Stone, which they call, from its great Virtues, the *Divine Stone*; this breaks the Stone in the Kidneys, and forces it away by Urine; they tie it in their Clothes about the Back.

[The

[The *Nephritick Stone* is the *Lapis Indicus Nephriticus*, *Aldr. Muſ. Met.* 706. *Lapis Nephriticus*, *Mont. Ex.* 14. *Charlt. Foſſ.* 33. *Worm.* 95. It is a Stone of many Colours, as, green, blue, yellowiſh, whitiſh, and duſky brown, but always having more of the green than of any other Colour. It is found in *America* and ſome Parts of *Europe*, and is ſuppoſed to have great Virtues, but is ſcarce ever uſed at preſent.

The *Divine Stone*, mentioned here by *Lemery*, is the *Jade* mentioned in the laſt Chapter; and the *Malaquite*, often ſubſtituted for it, is the *Malachites vel Molochites*, *Worm.* 263. *De Laet.* 87. *Malachites*, *Aldr. Muſ. Met.* 900. It is of the *Jaſper* kind, and is found in *Cyprus*, *Miſnia*, and *Tirol*, but is never uſed in Medicine.]

12. *Of* Venetian Talck.

Pomet. THE *Venetian Talck* is a kind of greeniſh Stone, in Scales or Flakes, which though it ſeem fatty in the handling, is nevertheleſs very dry and heavy; the fineſt is that which is found in the Quarries ſituated near *Venice*, from whence it is called *Venetian Talck*; it is found alſo plentifully in *Germany*, and about the *Alps*. The beſt *Talck* is that which is in large, white, greeniſh, ſhining Stones, that, being broken, ſparkle like Silver Spangles, and which, being ſeparated into ſmall Leaves, is white, clear, and tranſparent; but take care that it be equally fine throughout; for that which is in great Stones is very ſubject to be bad, by reaſon of a great many yellow or reddiſh Veins that are found within, accompanied with a kind of Earth that ſpoils the Sale of it. There is ſome alſo which, inſtead of being of a greeniſh White, is of a reddiſh Yellow; ſo that we had better take that which is in moderate Pieces, which we may know at ſight.

Talck is much in regard with the Ladies of Quality, who uſe it for a Coſmetick; and as it is exceeding difficult to reduce it into Powder, or even to calcine it, the way is now to grate it with a Fiſh-ſkin, and then to ſearce it; ſo uſing it as Occaſion ſhall require. Hence it is, that almoſt none but ſuch *Talck* as is in moderate Pieces, of a Size fit to be held in the Hand, is now called for.

Venetian Talck, while it is whole, is of a greeniſh Colour; but being broken, or divided into thin Scales, is white; it is known from *Engliſh Talck* by its Friability, its green Colour, and Fixedneſs in the Fire: For ſome who have kept it forty or fifty Days in a Glaſs-houſe Fire, have taken it out at the end of the Time, and found no Alteration in it, neither in reſpect of Reſolution, Colour, or Weight, but it has come out abſolutely the ſame thing as it went in. This *Talck* therefore being of ſo fixed a Nature, our Labour now muſt be to ſhew how to open its Body, in order to make thoſe Preparations of it which we deſire, at leaſt the noble White, which Ladies, with ſo much Curioſity and Charges, ſeek after and purſue. It it true, there are a great many Men that boaſt what Preparations and Secrets they have of *Talck*; but this we certainly know, that there is no liquid Subſtance of it yet invented or known, made out of the ſimple thing itſelf; but ſuch as is compounded by the mixture of ſuch Salts as are able to penetrate the Stone; ſo invincible is the Fixedneſs of the true *Venetian Talck*: Therefore to attempt to calcine it, without the Addition of ſome piercing Salt, is Vanity; but by the help of ſome Salts, and acrid Spirits, a good Coſmetick may be made of it, to change and whiten the Skin.

The Antients, and eſpecially the *Arabians*, were ſometime of opinion, that from *Talck* might be drawn a Remedy of ſuch Efficacy, as ever to preſerve the Body in good Caſe; for which Reaſon they gave it the Name of *Talck*, as much as to ſay, an equal Diſpoſition of Body, according to which it is in perfect Health: And from hence, undoubtedly, hath proceeded the vulgar Error concerning an Oil of *Talck*, which is ſo much commended, and to which ſuch extraordinary Virtues are attributed; and ſo prevalent hath this Error been, and ſtill is at this Day, that whoever could find the Secret of getting an Oil from *Talck*, without the Addition of Salts or Acids, might be ſure to ſell it for its weight in Gold; yea, I may venture to ſay, twenty times more. But ſince, as I believe, the high Commendations and wonderful Virtues uſually aſcribed to it, proceed only from a Suppoſition that it can never be had, I ſhall ſay no more of it, but that ſome Perſons, who flatter themſelves with a Belief that they have the Secret of making it, affirm that it is incomparably good for whitening the Skin, ſmoothing the Face, and, in a word, to make old People renew their Youth.

Some ſay, if *Venice Talck* be heated red-hot, and put into an Iron Mortar almoſt as hot, it may be beaten in a ſmall time to a moſt fine impalpable Powder, which being ſearced, may be mixed with *Unguents* and *Pomatum*, and uſed as other Coſmeticks of the like kind. This *Talck*, thus pulverized, may be ſtrewed among Snail Shells, and left in a glazed Pipkin till they have ſucked it all up; then having bruiſed all together, put the Mixture into a Glaſs Cucurbit, covered with its Head, and diſtil the whole Maſs, and you will have a Coſmetick Water, good to cleanſe and beautify the Skin with.

We have another ſort of *Talck*, brought us from *Muſcovy* and *Perſia*, which they call Red or Leaf *Talck*,

Talck, becauſe it is of a reddiſh Colour, and eaſy to be divided into Leaves as thin as you pleaſe. This Red or Leaf Talck is only uſed, ſo far as I know, by the Monks and Nuns, who put it, inſtead of Glaſs, before their Pictures and *Agnus's*; but they do not, as ſome Authors affirm, employ to this Purpoſe the *Venetian Talck*. This then, as I have ſaid, being the only Uſe of the Leaf *Talck*, we ought not to meddle with any but what is in large Leaves, and when ſplit, or divided into very thin Pieces, is of a cryſtalline Clearneſs and Tranſparency. There is not almoſt a more curious Commodity in the World than Leaf *Talck* with the required Qualifications, foraſmuch as it is very rare to be found: It is a thing ſo very hard to underſtand, that I would not adviſe any one to buy any but what is approved by thoſe who work in it; that which, being thick, is blackiſh, and may be divided into Leaves extremely thin and tranſparent, is judged to be the beſt.

Lemery. *Talcum*, or *Talck*, is a kind of Stone, or a mineral Matter, that is fine, white, ſmooth, ſoft to the Touch, ſhining, and tranſparent, dividing into Leaves or Scales that will not burn: Some call it *Stella Terræ*, becauſe it ſhines like a Star: There are two kinds of it, one called *Venetian Talck*, and the other *Muſcovy Talck*; the *Venetian* ſort is ſoft, ſcaly, heavy, and appears greaſy to the touch, though it is dry, of a Silver Colour, tending to green, ſomething tranſparent: Chuſe the fineſt white ſhining Pieces, upon the green Caſt, that ſeparate into little nice clear Leaves, or Flakes, that ſhine like Pieces of Silver. When you would reduce this into Powder, raſp it with a Sea Dog's Skin, or rather calcine it in a Crucible about a Quarter of an Hour; then beat it in an Iron Mortar almoſt red-hot, and ſift it through a Sieve. It is uſed in Coſmetick Pomatums by the Ladies.

The *Muſcovy Talck* is hard, ſmooth, ſhining, and ſoft to the Touch, dividing or breaking into thin Leaves, that are almoſt as tranſparent as Glaſs, and ſometimes it is reddiſh: This comes from the Quarries in *Muſcovy* and *Perſia*. Chuſe the fineſt and cleareſt. It ſerves them for Lanthorns, as we uſe Horn; but the *Talck* is more commodious, for it is more tranſparent, and not ſo ſubject to burn. *Talck* is difficult to reduce to Aſhes by the Fire, becauſe the Pores of it being ſmall, the Parts of Fire ſlide through without making any Impreſſion. I attempted to calcine both ſorts by a Burning-glaſs: That of *Venice* was changed by the ſolar Fire into a groſſer, yellowiſh, opake Matter; and that of *Muſcovy* into a light farine, being very fine white Powder.

[*Talck* is the *Talcum*, *Aldr. Muſ. Met.* 685. *Talcus foſſilis*, *Calc. Muſ.* 458. *Talcum alias Stella terræ*, *Charlt. Foſſ.* 24. It is a ſhining fiſſile Stone, eaſily divided into thin Laminæ looking like Silver Spangles: There are many Kinds of it, but the Greeniſh or *Venetian*, the *Talcum Viride*, *Mont. Ex.* 14. is moſt eſteemed as a Coſmetick, which is the principal Uſe it ſtands commended for. There is a more ſilvery kind, much eſteemed by the Chymiſts, and called *Argyrolithos*; and a yellowiſh, which they call the Solar *Talck*. They think by an Oil of theſe *Talcks* to turn Quickſilver into Silver; but they do not conſider that what they call Oil of *Talck* is entirely the Product of other Subſtances mixed with it.

The beſt way to powder the *Venetian Talck* is, to heat it ſeveral times over in the Fire, and quench it in cold Water, then levigating it on a Porphyry, it becomes a fine ſhining white Powder, very ſmooth to the Touch, and fit to mix in Pomatums.

What our Authors call Leaf *Talck* is the *Lapis Specularis*, *Kentm.* 26. *Worm.* 56. *Mont. Ex.* 14. *Glacies Mariæ ſeu Lapis Specularis*, *Koning. Lapis Mariæ Neotericis*, *Charlt. Foſſ.* 23. It is brought from *Spain*, *Muſcovy*, *&c.* It is ſaid to be a good Medicine in Epilepſies, but its principal Uſe is in ſmall Works, inſtead of Glaſs or Horn, for the preſerving Microſcope Objects, *&c.*]

43. *Of* Briançon Chalk.

THE *Briançon Chalk* is a kind of Stone, or a mineral Subſtance, almoſt like *Venetian Talck*, but harder, and that does not ſo readily ſplit or ſeparate into Scales: There are two kinds of it, one white, and the other green; they are found in the Quarries or Pits near *Briançon:* They ſerve to take Greaſe Spots out of Clothes, and for Taylors to mark or ſcore with. Chuſe the neateſt, ſmootheſt, green, and ſoft.

[*French Chalk* is the *Morochthus Dioſcoridis*, *Morochtes Plinii*. It is an Aſtringent, is good in Hæmorrhages, and is uſed with Succeſs in Collyriums for Ulcers of the Eyes.]

15. *Of* Spalt *or* Spaad.

SPALT or *Spaad* is a ſcaly bright Stone, very like Parget Stone, except that this is whiter. They find abundance of theſe Stones in *Germany*, eſpecially about *Augsburg*; there are ſome likewiſe in *England*, but not ſo good. We ſometimes ſee Fragments of this Stone adhering to and mixing with Frankincenſe, a Sign that it is found in the Places whence it comes. It ſhould be in long brittle Scales, that may be eaſily crumbled to Powder *Pomet.*

Powder with the Nail of one's Thumb, which cannot be done by that of *England*, being more hard. *Spalt* is uſed by ſeveral ſorts of Workmen, being ſaid to be good to aſſiſt the Founders in melting of their Metals; which I cannot affirm to be Fact, having never ſeen it tried.

Lemery. *Spalt* is a ſcaly Stone that is bright, and looks like Plaiſter-ſtone, or Cryſtal of *Montmartre*, but it is much whiter. It is met with in *England* and *Germany*. The Founders uſe it to flux their Metals with. It is deterſive and drying, outwardly applied.

13. *Of the* Lapis Judaicus, *or* Jews Stone.

Pomet. THE *Jews Stone* is of different Sizes and Figures; but the moſt common Size is that of an Olive, adorned with little Streaks or hollow Lines, running from one End to the other, and ſometimes it is altogether ſmooth. This Stone is uſually grey, and ſometimes of a reddiſh grey, and ſhines like our little Flints, of which I believe it to be a Species. Theſe Stones are brought us from different Parts of *Judæa*, from whence they take their Name; they are likewiſe called *Syrian* and *Phœnician* Stones. This Stone, though it be like a Flint, it is not ſo hard, yet not ſo eaſy to break as ſome Authors have aſſerted; but being broken, it is of a whitiſh Grey, and ſhining. Mr. *Charas*, in his Book of Chymiſtry, at the 821ſt Page, ſays, that this Stone, being calcined with Sulphur, diſtilled Vinegar, Spirit of Salt, and Spirit of Honey, there may be drawn from it a Salt that is admirable for breaking the Stone; where thoſe who are deſirous to prepare it, may be inſtructed therein.

Lemery. *Lapis Judaicus*, *Lapis Syriacus*, *Phœnicites*, *Tecolithus*, or the *Jews Stone*, is of various Forms and Bigneſs, but moſt uſually is ſhaped like a ſmall Olive, ſtreaked all over with Lines that run through the length of it, and are equally diſtant one from another: Some are found ſmooth without any, and ſome in a cylindrical Form. The Colour is grey, and ſometimes reddiſh without, and whitiſh within. It appears to be hard like a Flint, but is ſoft, and may be eaſily beat to Powder: They are diſtinguiſhed into Male and Female; the Male is that which is large, long, and of a cylindrical Figure; the Female is that which is of the Shape and Size of a ſmall Olive. They are both indifferently uſed in Phyſick, being firſt ground to a fine Powder on a Marble: This Powder is given to ſtop Fluxes of the Belly, to provoke Urine, and to break the Stone in the Kidneys and Bladder.

[This is the *Lapis Judaicus*, *Kentm.* 28. *Boet.* 408. *Charlt. Foſſ.* 29. *Radiolus Glandularius ſubcinereus major partim ſtriatus, partim tenuiſſime punctulatus. Lang de Lap.* 127. *Radiolus Glandularius ſeu Lapis Judaicus*, *Boetii Lhuyd. Lith. Brit.* 49. They are found of various Lengths, Colours, and Thickneſſes, and are the petrified Spines of a large Species of the *Echinus Ovarius*, or *Sea Urchin.*

They are ſaid to be diuretick and lithontriptick, but are little uſed at preſent.]

16. *Of the* Lapis Lyncis, *or* Thunder Stone.

Pomet. THE *Belemnites*, called alſo the *Lynx* Stone, is a kind of Stone made in a pyramidal Form, to which the Antients gave the Name of *Belemnites*, from its reſemblance to a Dart or Arrow; and others, of *Dactylus Ideus*, from its likeneſs to a Finger, and becauſe it is found on Mount *Ida*; others ſay it was called *Lapis Lyncis*, becauſe it was believed that it was formed from the Urine of the *Lynx*. This Stone is harder than the *Jews Stone:* They attribute the ſame Virtues to it: Mr. *Charas* has told me it might be prepared after the ſame Manner, and uſed for the ſame Purpoſes. This Stone being broken, is of the Colour of Horn in the Cavity, in which is found a ſort of grey dry Earth, of an inſipid Taſte, and like to be good for nothing. At the End of the Stone there alſo appears, as it were, the reſemblance of a Sun. Plenty of theſe Stones are found about *Paris*, in digging and labouring the Ground, eſpecially in ſandy and gravelly Soils.

Lemery. *Belemnites*, *ſive Lapis Lyncis*, *ſive Dactylus Idæus*, the *Thunder Stone*, or *Thunder-bolt*, is about the Length and Thickneſs of a Man's Finger, ſometimes more, and ſometimes leſs, round-pointed, or in a pyramidal Form, like an Arrow. They are found of different Colours, ſometimes white, ſometimes grey, and ſometimes brown; brought uſually from *Candia*; but they come likewiſe from *Germany*. They find the ſame about *Paris*, in the ſandy Grounds; and there are two ſorts of them, one, that being put upon the Fire will yield a bituminous Smell, and the other none at all: The firſt is plainly that which the Antients called *Lyncurius*, and believed falſly to be a kind of *Succinum*, or Amber, that was made from the Urine of the *Lynx* coaggulated. The Stone being broken, they find in its Concavity, that looks of a Horn-colour, a little dry grey Earth, without Smell or Taſte. This Stone is uſed to break the Stone in the Kidney, and to expel it by Urine, being taken inwardly. It is alſo uſed externally to cleanſe and dry Wounds. It is ground on a Marble to reduce it to Powder.

[The *Thunder Stone* is the *Lapis Lyncis*, *Schrod.* 353. *Belemnites Lapis, ſeu Dactylus Idæus*, *Boet.* 476. *De Laet.* 150. It is a rounded oblong Stone, ending in an obtuſe Point, of different Colours, ſometimes ſolid, and ſometimes hollow, and diſtinguiſhed by Lines drawn from the Axis to the Circumference, and with a Fiſſure or Slit runing the whole Length: They are commonly about two Inches long.

It is an Error to think this the *Lapis Lyncurius* of the Antients; for it is evident, that *Dioſcorides*, by that Word, underſtood another Stone, which ſome at that Time thought the indurated Urine of of the Lynx.

It is ſaid to be a powerful Lithontriptick, but is never uſed at preſent.]

17. *Of the* Bolognian-ſtone.

Pomet. THIS is a heavy Stone of a ſhining Silver grey, very like in Figure to the *Nephritick-ſtone*, which is found very commonly about *Bologna* in *Italy*; whence it takes its Name. This Stone is of no other Uſe, than, after Calcination, to make a kind of *Phoſphorus*, of which Mr. *Lemery* treats largely, and better than any who have gone before him, at the End of his Book of *Chymiſtry*; and likewiſe Mr. *Worms*, he having writ a long Diſcourſe of it, whither thoſe who deſire to make it, may have recourſe. The *Bolognian-ſtone* is not yet well known amongſt us, which is the Cauſe we ſell ſo little of it. Some call this Stone calcined, the *Sun* or *Moon Spunge*, the illuminated *Stone*, *Lucifer*, *Caſſiolanus* his Stone, or *Kercher's Phoſphorus*.

Lemery. *Lapis Bolonienſis*, *Chryſolapis*, or the *Bolognian-ſtone*, is a Stone whereof a *Phoſphorus* is made. It is ordinarily of the Bigneſs of a Walnut, bunched, uneven, flattiſh, and diſpoſed in ſuch a Manner, that the Side oppoſite to the Bunch or Knot, made a kind of Cavity. It is heavy, grey, ſoft, ſhining in ſeveral Parts, cryſtalline within, almoſt like *Talck* of *Montmartre*. It is found in ſeveral Parts of *Italy*, but chiefly at the bottom of Mount *Paterno*, which is a Part of the *Alps*, and diſtant from the City of *Bologna* about a League. They are eaſily diſcovered after the Floods of Waters that happen from the great Rains; for then the Earth is waſhed and cleaned that ſurrounded them, and hindered them from being ſeen. They are diſtinguiſhed from other Stones of the Mountain by little Sparks that appear on their Surface; and we may ſee, in the Cabinets of the Curious, ſome of thoſe that weigh to five Pounds. Theſe large Stones are no otherwiſe valuable than for their Scarceneſs, they being more earthy than the ſmall ones, and not ſo good to make the *Phoſphorus* of.

The beſt *Bolognian-ſtones* are thoſe which are found covered on the Outſide with a thin, white, and opake Cruſt; but theſe are very rare. And ſince we cannot often come at them, we uſe the common ſort, which ſhould be choſen with the feweſt Spots, and bright. The worſt are thoſe where there appear Veins of Vitriol or Iron: Theſe contain in them much more of Sulphur and Salt.

The *Bolognian-ſtone* is prepared and reduced into a *Phoſphorus*, by a moderate Calcination, that purifies and exalts the Sulphur more than it was. This Calcination is made in the following Manner: Take ſeven or eight of theſe Stones cleanſed on the Outſide with a Raſp, or Knife, and powdering very finely one or two of the moſt ſhining of them in a Braſs Mortar, throw the others whole, one after another, into clear Water; and having taken them out, cover them entirely over with the Powder, by rolling them in it, that they may lick up as much as they can; then put them into a little Furnace or Stove, with a Braſs Grate, upon which you muſt lay them in Order, with a Fire under them to calcine; which when done, let the Fire go out of itſelf; and when all is cold, take off your calcined Stones gently from the Grate; ſeparate the Cruſt, which comes from the Powder in which you have rolled them, and keep the Stones in a Box with Cotton; preſerve likewiſe the Cruſt, which is to be reduced into an impalpable Powder.

Theſe calcined Stones are the *Phoſphorus*, which being expoſed to the Day in an open Field or Street, are lighted as it were in an Inſtant; after which, if they are carried into a dark Place, they will appear like lighted Coals, without any ſenſible Heat, and you may extinguiſh them by little and little; but if you let in the Light, they will burn again: And thus they will laſt for two or three Years together, according as they are more or leſs frequently expoſed to the Light. And when theſe Stones have loſt their Virtue, they may be reſtored again, by obſerving the ſame Circumſtances as before, but their Brightneſs will be much leſs. The Cruſt reduced into Powder is likewiſe finer and more illuminating, when expoſed to the Air, than the Stones. They fill little Bottles of fine Cryſtal with it cloſely ſtopt, which they keep to give Light when they pleaſe; for they are not obliged to expoſe it to the Air, as they do the Stones, the Cryſtal not giving any Obſtruction to the Light from the Powder.

One muſt not imagine that any of the ſeveral

Circumſtances that I have ſhewn for the Calcination of the *Bolognian-ſtone* are uſeleſs; for they are ſo neceſſary, that if they be not all exactly obſerved, the Operation is loſt, and the Stone will give no Light. This Stone acquires, by Calcination, a ſulphureous Smell, like melted *Orpiment*; and when it is boiled with Lime and Water, it yields likewiſe a little *Arſenical Salt*.

The Reaſon why it appears light, proceeds from the Fire mixing with the Sulphur in its Motion, which raiſes to the Superficies an Infinity of Particles that are ſo ſubtil and delicate as to take Fire upon Light, or the Motion of the Air. But thoſe who deſire to be more fully informed in this Matter, may read what I have ſaid in my Treatiſe of *Chymiſtry*, where I have ſpoken not only of this kind of *Phoſphorus*, but of ſeveral others; and have likewiſe given you the Figure of a Furnace that is moſt convenient and proper for calcining this Stone, which is a *Depilatory*; and being powdered and mixed with Water to the Conſiſtence of a Paſte, may be applied to any Part of the Skin where there is Hair to be taken off. It is called *Phoſphorus*, or *Lucifer*, from bringing of Light; and *Cryſolapis*, from caſting a Light of a golden Colour,

[The *Bolognian-ſtone* is the *Lapis Bononienſis*, *De Laet.* 206. *Charlt. Foſſ.* 20. *Lapis Illuminabilis*, *Aldr. Muſ. Met.* 688. *Phoſphorus Kircheri quibuſdam Fosforo o Pietra lucida de Bologna*, *Boet. Obſ. Nat.* 224. The making the *Phoſphorus* of it is a very nice Thing, and very few have ſucceeded in attempting it. It is a violent and dangerous Emetick if taken inwardly, and externally a Cauſtick.]

18. *Of the* Pumice-ſtone.

Pomet. THE *Pumice-ſtones*, which the *Latins* call *Pumex*, are Stones of various Colours, Shapes, and Weight, being white, greyiſh, light, heavy, big, little, round, and flat. They are valued more or leſs according to the Occaſion they are wanted for; for ſome eſteem the white, others the grey, ſome the light, and ſome the heavy: Notwithſtanding which, I muſt tell you, that the largeſt and lighteſt are moſt ſet by, eſpecially for thoſe who make Parchment, and Stone-cutters, who conſume abundance; but the ſmall are ſcarce uſed, but by the Pewterers, who reduce them into Powder. As to the flat *Pumice-ſtones*, they are uſed by the Curriers: In a word, the *Pumice-ſtones* are of ſuch Uſe that we have ſcarce any Commodity whereof there is a greater Conſumption, there being ſuch abundance of Workmen that uſe them. As to Phyſick, the little Uſe made of them in it is not worth ſpeaking of, ſave only that after Calcination and powdering, it makes a Dentifrice for the cleaning of the Teeth.

As for the Nature and Conſtitution of this Stone, I have not yet been able to come to the Knowledge thereof; wherefore I ſhall reſt ſatisfied with what Authors ſay of it, namely, that it is a Stone thrown out of Mount *Veſuvius*, or Mount *Ætna*, and by the Violence of the Winds carried into the Sea, where it is found ſwimming on the Surface, from whence it is taken. Others ſay they are the Stones of Mountains that have been burnt by ſubterranean Fires. However, it is certain, that the *Pumice-ſtone* is a calcined Stone, becauſe it is light and porous, or full of Holes, and that it has been in the Sea, or is of a ſalt Nature, foraſmuch as all the *Pumice-ſtones* we ſell are of a ſalt and brackiſh Taſte, and full as it were of little Needles.

Pumex, or the *Pumice Stone*, is a Stone or Earth that has been calcined by ſubterranean Fires, thrown out by Eruptions of the Volcano's, and by the Force of Winds carried into the Sea, where it is found floating. There are ſeveral kinds of it, the large, ſmall, round, flat, light, heavy, grey, white, *&c.* the moſt valued are the biggeſt, lighteſt, and the cleaneſt; they ought to be porous, ſpungy, of a ſalt, fenny, or marſhy Taſte, full of ſmall Needles. They are found likewiſe in *Sicily*, near Mount *Veſuvius*, from whence they come; and in *Germany*, about *Conflans*, the *Moſelle*, and the *Rhine*; they are alkaline, deterſive, drying, uſed for old Ulcers, ſore Eyes, and to clean Teeth. *Lemery.*

[The *Pumice* is the *Lapis Pumex dictus*, *Cup. Hort. Cath.* 2. 53. *Pumex*, *Kentm.* 37. *Boet.* 400. *Scyrus Lapis*, *Aldr. Muſ. Met.* 696. It is found among the Sulphur about *Ætna*, *Veſuvius*, and other burning Mountains; as alſo in *Germany*, and other Places. It is often mixed with the *Os Sepiæ* in Tooth Powders; but has little other Uſe in Phyſick.]

19. *Of the* Aëtites, *or* Eagle-ſtone.

Pomet. WHAT we call the *Eagle-ſtones*, are certain Stones that are hollow in the middle, and contain in them a ſtony Nut or Kernel, that makes a Noiſe when we ſhake them. We commonly find four ſorts of them, that are indifferently called in *Latin*, *Lapis Ætites*, but the Kernel *Callimus*. The firſt ſort is brown, oval, uſually the Length of two or three Inches, and half a one broad, rough or knotty, and that takes a good Poliſh: The Second is ſomething leſs than the other, and ſeems to partake much of Iron, for

it

it is covered with an Ocre like the Iron Marcaſites. The third ſort is rough and uneven, as if it was compoſed of Fragments of little ſhining Flints of different Sizes, whereof ſome are brown, and others of a ruſſet Colour, and ſome as it were tranſparent; and all theſe Flints are ſtrongly knit together by a natural Cement, and moſt commonly nothing is found within it but ſome Grains of Sand. The fourth Kind is of an Aſh-colour, and contains within it white Clay or Marle. This ſort comes from *Germany:* The Firſt and Second are found in the Bogs of *Cape St. Vincent* in *Portugal*, and in the Mountains near *Trevoux*, in the Principality of *Dombes*. It is now no longer believed that they are found in the Eagle's Neſt.

It were to be wiſhed that the Virtues attributed to the *Eagle-ſtone* were as certain as they are conſiderable; Authors affirming that it facilitates the Birth, if tied to the Thigh of a Woman in Labour, and that it hinders Miſcarriages if tied to the Arm; they believe that reduced to Powder, and mixed in a *Cerate*, it leſſens the *Paroxyſms*, or Fits of the Epilepſy, if applied to the Head: It is alſo ſaid, that the Marle or Clay that is found in the Hollow is ſudorifick, and will ſtop the Flux of the Belly.

What I have ſaid in the Chapter of the *Eagle* about theſe Stones, was in Concurrence with the common Opinion; and becauſe I was not abſolutely certain of the true Hiſtory of them, but the Account here given of them is the more rational, and what is generally believed now.

Ætites Lapis, or the *Eagle-ſtone*, is a Stone commonly round or oval, of the Bigneſs of a Walnut, and ſometimes of a ſmall Pullet's Egg, of a greyiſh or dark Colour, hollow in the middle, wherein is contained a ſort of ſtony Kernel, that rattles in the Stone when you ſhake it. There are four Kinds [according to *Pomet's* Deſcription] all which have great Virtues aſſigned them, which are altogether imaginary, Experience not confirming them with any Pretence of Certainty: It is aſtringent, and proper to ſtop Looſeneſſes and Hæmorrhages, taken inwardly; the Kernel, which is ſofter than the Stone, is more advantageous for all the ſame Purpoſes: They are called *Aëtites*, that ſignifies *Aquiline*, or of the *Eagle*, becauſe it was believed that the *Eagles* furniſhed their Neſts with theſe Stones to preſerve their Young. *Lemery.*

[The *Eagle-ſtone* is the *Ætites, ſeu Aquilinus Lapis*, *Beet.* 375. *Worm.* 77. *Charlt. Foſſ.* 31. They are of various Bigneſſes and Colours, but generally of an oval Form. They are found in different Places; but thoſe from the *Levant* are moſt eſteemed. The Virtues aſcribed to them are wholly imaginary, and the Stories about them ridiculous.]

20. *Of the* Toad-ſtone.

THE *Toad-ſtone*, called in *Latin*, *Bufonites*, and *Batrachites* in *Greek*, is a Stone found in the Mountains, or the Plains. It has been believed that it was bred in the Head of an old *Toad*, whence it was voided by the Mouth of that Creature when put upon red Cloth: But *Boëtius*, and thoſe who have made exact Enquiries after it, affirm that it is a Stone formed in the Earth. There are commonly two ſorts, to wit, the round and the long: The round *Toad-ſtone* is of the Shape of a ſmall Cap, round in the Circumference, hollow below, convex above, and very ſmooth, about half an Inch broad at the bottom; ſome of them are of a deep grey inclining to blue; and there are others of a reddiſh Colour; but both ſorts are uſually of a much lighter Colour at their bottom. The long *Toad-ſtone* is moſt frequently of an Inch long, and above four or five Lines thick, hollowed like a Trough on one Side, and of a convex Figure on the other: Some of thoſe are of a deeper, and ſome of a lighter Grey, marked with ſome reddiſh Spots, and ſmooth as the round: They ſet them, eſpecially the round ſort, in Rings; but that is more for Ornament than any Virtue in them, for they are very uncertain in their Effects, eſpecially in their allaying, as is pretended, the Inflammation occaſioned by the Sting of Bees, or other Inſects. It is falſe that it changes its Colour, and ſweats when it approaches a Cup wherein there is Poiſon. Though *Boëtius* and others affirm, that the *Toad-ſtone* is found in the Ground, nevertheleſs I ſhall not conteſt or diſpute, but that it may alſo be bred in the Head of old *Toads*, though it is certain what we now ſell comes not from theſe Animals, but is found in the Earth, as has been obſerved. This Deſcription of the *Toad-ſtone*, and that of the Eagle-ſtone, were given me by Mr. *Tournefort*, who is a Perſon on whom we may depend. *Pomet.*

Bufonites, *Chelonites*, *Batrachites*, is a kind of precious Stone, whereof there are two Kinds, one round, and the other long. The firſt is round in its Circumference, hollow on one Side, and convex on the other, in Form of little Cap or Bonnet, about half an Inch broad at the Baſis, very ſmooth, ſometimes grey, brown, black, green, and of various Colours. The ſecond ſort is ſometimes more than an Inch long, and above four or five Lines thick [according to *Pomet's* Deſcription.] The Size of theſe Stones are ſufficient to undeceive thoſe who believe that they *Lemery.*

they are taken from the Heads of Toads; they are found in the Mountains, and the Plains where they are produced.

Some pretend, that being powdered and taken inwardly, they are capable of reſiſting the Plague and other malignant Diſeaſes; that being applied to the ſtinging or bitings of venomous Beaſts, they draw out the Poiſon. Some hang them about their Neck for *Quartan Fevers*; but all theſe Virtues are imaginary, for the *Toad-ſtone* has nothing in it but an alkaline Quality proper to abſorb Acids, and to ſtop Looſeneſs, taken from a Scruple to half a Drachm; but it is not in Uſe.

[The *Toad-ſtone* is *Bufonites Lapis*, *Ind. Med.* 23. *Bufonites Majuſculus Atrorubens inſtar Capſulæ Glandis Quercinæ*, *Act. Reg. Soc.* 200. *Luyd. Lithop. Brit.* 20. *Bufonius*, *Mer. Pin.* 210. They have been variouſly gueſſed at in regard to their Origin; but are in truth the *Dentes Molares* of the Sea Wolf. *Lupus Marinus*, *Schonf. Ich.* 45. *Charlt. Piſ.* 31. *Lupus Marinus noſtras & Schonfeldii Raii Ich.* 130. The Virtues aſcribed to them ſeem altogether imaginary.]

21. *Of the* Lapis Amiantus.

Pomet. THE *Lapis Amiantus* is a Stone of a greeniſh Black without and within, pretty heavy, that being broken is almoſt like *Plumous Alum*, in that it riſes in Threads of a whitiſh Green, or rather of a Horn Colour. This Stone is incombuſtible, and the Antients were not much deceived when they ſaid the *Lapis Amiantus* and the *Plumous Alum* were the ſame Thing: There is notwithſtanding ſome Difference, in that the *Plumous Alum* ariſes in long, and this in ſhort Threads; beſides, the Extremities of the *Plumous Alum* are not of a Colour with thoſe of the *Lapis Amiantus*. This Stone is found in *Turkey*, for all that we ſell comes from *Conſtantinople*; as to the Choice of it, or its Uſe, I know nothing, ſave that an incombuſtible Cloth is made of it, which is a very great Curioſity.

Lemery. *Amiantus*, *ſive Albeſton*, *ſive Albeſtes Lapis*, is a Stone of a mineral Subſtance, or a kind of Talck that has a near Reſemblance to *Plumous Alum*, ſeveral People confound one with the other, believing them to be the ſame Thing. It is found in two different Forms; for the one is in Filaments or Strings, like thoſe of *Plumous Alum*, but much longer; the other is in a brown or blackiſh hard Stone, but that will ſpread under the Hammer. The Antients ſpun *Amiantus* and made incombuſtible Linen of it, which, amongſt other Uſes, ſerved them to wrap their dead Bodies in when they burnt them to preſerve their Aſhes: The Corps burnt while the Linen remained entire. This Stone is found in the Quarries near the *Pyrenees*. *Amiantus* is uſed in ſome Remedies; they believe it reſiſts Poiſon, cures the Itch, and is deterſive.

[This is the *Amiantus*, *Boet.* 382. *Geſn. De Lap.* f. 6. *Amianthus*, *ſive Aſbeſtus*, *Ind. Med.* 8. It is of many Figures and Colours; ſome Pieces of it ſo much reſembling the *Alumen Plumoſum*, that by the Ignorance of thoſe who gathered them, they have been ſold to Druggiſts, *&c.* as ſuch; though the Taſte alone is ſufficient to ſhew the Difference.

It is found in many Places; and among others both in *Scotland* and *Wales*.

It ſtands the Fire unhurt; which the *Alumen Plumoſum* does not, and is not at all diſſoluble in Water as that is.

It is of no Uſe in Medicine; there have indeed been many Virtues attributed to it, but they ſeem altogether imaginary.]

22. *Of* Cobalt.

Pomet. *COBALTUM*, or *Kobaltum*, is a reddiſh hard Stone, that is heavy, and in Grains of the Size of our Peas, that ſtick ſeveral of them together upon a kind of Spar or Marcaſite, like Antimony. This *Cobalt* is uſually found in the Silver Mines, and is a Plague to the Workmen, being a dangerous Poiſon: For if by Chance it fall into the Water, and that the Miners be obliged to go into that Water, they are ſure of having their Legs all ulcerated. This *Cobalt* is much different from that of ſome Authors, who have thought it to be *Lapis Calaminaris*; but they are groſly miſtaken, ſince it is eaſy to ſee the Difference. As to its Uſes, they are unknown to me, and its Scarceneſs makes that there is little Demand for it.

Lemery. *Cobaltum*, *ſive Kobaltum*, is a ſort of Marcaſite, or hard, heavy, reddiſh granulated Stone; many of which are collected together upon a mineral Body like Antimony. This Stone is compoſed of a kind of natural *Cadmy* that is found in the Silver Mines. It is a ſtrong violent Poiſon, yielding a burning arſenical Salt, a Sulphur, and an Earth compoſed of ſome metallick Parts. It is cauſtick, and being applied externally, makes an Eſcar upon the Fleſh, and eats off Excreſcences.

[*Cobalt* is the *Cadmia Metallica*, *Worm.* 128. *Charlt. Foſſ.* 51. *Aldr. Muſ. Met.* 256. *Matth.* 1338. *Cadmia Metallaris aliis Cobaltum Metallicis*, *Schw.* 370. *Cadmia foſſilis ex qua preparatur Zaffera*, *Wood. Attempt.* ii. P. 1. p. 50. It is a ponderous, hard, foſſil Subſtance, not unlike *Antimony*, or ſome

ſome kinds of the *Pyrites*, emitting a ſtrong ſulphureous Smell when burnt, often containing Copper, and ſometimes Silver. It is dug out of Mines in *Saxony* and *Bohemia*, and in *England*, in *Mendip Hills*, but there not very common.

All the Kinds of Arſenick, as alſo *Zaffera*, and the *Encauſtum Cæruleum* are obtained from it, as already mentioned in their reſpective Places.]

23. *Of* Oſteocolla, *or the* Bone-Binder.

Pomet. THE *Oſteocolla*, or *Bone-Binder*, is a ſandy Stone, and porous like a Bone, whereof there are two Kinds; the one heavy, gravelly, uneven, and pretty round; the other light and leſs ragged. The *Oſteocolla* is found in ſeveral Parts of *Germany*, where they call it *Benbru*, but chiefly near *Spires*, *Heibelberg*, and *D'Armſtadt*. They pretend that this Stone has the Power and Faculty of ſetting a broken Bone when taken inwardly, as well as when applied to the Fracture.

Beſides all theſe ſorts of Stones already deſcribed, we ſell ſeveral other Kinds, ſuch as the *Aſius Lapis*, or *Sarcophagus*, the Serpentine and Blood-Stone, which is a ſort of Marble full of little red Spots, from whence it takes the Name of Blood-Stone; as alſo becauſe it is pretended that it ſtops Blood; the *Star-Stone*, *Rock-Cryſtal*, *Alabaſter*, the *Small Pox-Stone*, the *Aſtroites*, *Oſtracites*, *Croſs-Stone*, *Cornu Ammonis*, *Gloſſopetra*, and the *Rock* and *Madagaſcar Cryſtals*, and many others, whereof ſeveral Authors have treated at large.

Oſteocolla, *Oſtiocolla*, *Oſteites*, *Stelechites*, *Morochtus*, *Holoſteus*, *Oſteolithus*, *Lapis ſabuloſus*, *Lapis oſſifragus*, or the *Bone-Binding Stone*, is a ſandy hollow Stone, of an Aſh or whitiſh Colour, having the Shape of a Bone, of different Sizes. Some are met with as big as one's Arm. We have two ſorts of them; one round, uneven, or rough, ſandy, and heavy, the other ſmoother and lighter; it ſticks to the Tongue, like *Pumice-Stone*. Both kinds are found in ſeveral Parts of *Germany*, as the *Palatinate* and *Saxony*, where they grow in ſandy Places. It is uſed to agglutinate and reſtore in a little Time broken Bones, being applied upon the Part, and taken inwardly at the ſame Time; Doſe from half a Scruple to two Scruples. It is called *Oſteocolla* from *Oſteon* and *Colla*, which is as much as to ſay Bone-Glue. *Lemery.*

[This is the *Oſteocolla*, *Worm.* 53. *Charlt. Foſſ.* 32. *Oſteocollus Cruſtaceus*, *Geſn. De Rar. Foſſ.* 30. *Oſifragus Lapis*, *Boet.* 416. It is a Spar of a middle Conſiſtence, between Earth and Stone, and is found in many Places. Beſide the Virtues which its Name expreſſes, it is eſteemed a good Medicine in Fluxes of all kinds, particularly the *Fluor Albus*, but is ſeldom uſed. As to the other Stones, mentioned by our Authors, as they are never kept in the Shops, nor uſed in Medicine, I judge it will be but tedious to enter into a more particular Hiſtory of them here.]

BOOK VI.

Of *EARTHS.*

PREFACE.

In this Book are contained not only the Earths *that are of Uſe in Medicine, but likewiſe thoſe which are ſerviceable to* Painters; *in a word, all thoſe Foſſils that are ſoft and apt to crumble, and for this Reaſon have not been ranked among the* Stones. *I comprehend in this Book alſo whatever is made from* Earths, *and makes a Part of our Buſineſs. I have put into the Number of the* Earths *the* Catecu, *or* Cachou, *not becauſe of its Likeneſs to an* Earth, *but that moſt People will have it to be one, according to its Name, as will appear in the following Chapter.*

1. *Of* Cachou, Caſhew, *or* Japan Earth.

Pomet. CACHOU, according to Mr. *Caen*, Doctor of Phyſick, of the Faculty of *Paris*, ſuitably to what was communicated to him by one of his Friends, is an Earth that is found in the *Levant*, where it is called *Maſquiqui*; it is uſually met withal upon the higheſt Mountains where the Cedars grow, under the Roots of which this Earth is found, which of itſelf is very hard, and in a Lump. To loſe nothing of this Earth, the Natives, called *Algonquains*, gather it up, Sand and all together, and wet it with River Water, and make it into a Paſte, drying it in the Sun to the Hardneſs we ſee it of. The Natives always carry it about them, and uſe it for the Pain of the Stomach: They alſo apply it outwardly, like an Ointment, upon the Region of the Stomach.

Though this Deſcription of *Cachou* appears not very conformable to Truth, becauſe there is no Probability of its being an Earth; yet as the Perſon who gave this Deſcription to Mr. *Caen* aſſured him that it was ſo, and foraſmuch as it is called in *Latin*, *Terra Japonica*, I was obliged to rank it in the Claſs of Earths, and leave it to thoſe to determine what it is, who underſtood more of it than I do: All I ſhall ſay is, that you ought to chuſe *Cachou* of a tawny red without, and of a clear red within; the brighteſt and leaſt burnt that can be.

Cachou is a very bitter Drug, and of an unpleaſant Taſte when firſt taken in the Mouth: It is uſual to reduce it into a fine Powder, and to mix it with Ambergriſe; which, with the Mucilage of *Gum Tragacanth*, is made up into a Paſte, and formed into little Pellets, in Colour and Figure having the Reſemblance of Mouſe's Dung; and the ſmaller theſe Troches are made, the more valuable are they.

The Uſe of *Cachou*, whole or prepared, is to ſtrengthen the Stomach, and to make the Breath ſweet; and, in ſhort, it is one of the beſt Drugs we have, and yet at this time the leaſt uſed, ſince the great Uſe of Tea and Coffee; though *Cachou* is of much greater Virtues than either of them.

As *Cachou* is very unpleaſant to the Palate, eſpecially when firſt put into the Mouth, therefore ſome People, beſides the Ambergriſe, mix Sugar with it.

Other Accounts there are which make this Drug an inſpiſſated Juice of two vegetable Subſtances, the *Areca* Nut, and the Bark of an *Indian* Tree, called by the Natives *Catecu*, with the Addition of Liquorice Root and Lime-Water; and others, the ſimple Juice of a Tree, thickened with other Vegetables in Powder; others, that *Calamus Aromaticus* and other Drugs are made Ingredients in it.

The Differences in Colour which we obſerve in this Drug may ariſe, either from its being made of different Species of the *Areca*, or from its having in it greater or leſſer Proportion in it.

It was unknown in *Europe* till *Garzies ab Orta* wrote of it; and, in all probability, when it gets more into Uſe will prove a very fine Medicine.]

Lemery. *Catechu, ſive Terra Japonica*, is a ſort of dryed Paſte, hard, a little gummy, reddiſh, having the Form and almoſt the Hardneſs of a Stone; of a bitter and auſtere Taſte at the beginning, but leaving afterwards a ſoft and agreeable Impreſſion in the Mouth. There are two ſorts of it; the firſt and moſt common is compact, heavy, of a reddiſh brown Colour, ſtreaked with little whitiſh Rays; the ſecond is more porous, leſs weighty, and paler than the firſt. We are not ſufficiently informed concerning the Nature of *Cachou*, ſome ſaying it is a Paſte prepared by the Japanners with the Extract of *Areca*, *Calamus Aromaticus*, *Liquorice*, *&c.* mixed and hardened together over the Fire: Others pretend, that it is made with the Juices of *Areca*, and the green Bark of a thorny Tree of *Japan*, called *Catechu*, and thickened together by Heat: Others, as ſome Moderns maintain, that it is an Earth from the *Levant*, called *Maſquiqui*, [as deſcribed by *Pomet:*] But, after all, *Cachou* does not appear to the Taſte to be any thing of an Earth, but rather a thick Juice; beſides, there is drawn from it, by chymical *Analyſis*, a great deal of Oil and eſſential Salt, like what is drawn from Plants. It is good to ſtrengthen the Brain, Lungs, Stomach; againſt Catarrhs, and to correct a ſtinking Breath.

[The *Japan Earth*, as it is called, is nothing more than the inſpiſſated Juice of the *Areca* Nut, deſcribed in its proper Place, either ſimple, or mixed with other vegetable Juices or Decoctions; for we have two kinds of it common in the Shops.

The ſimple Juice we have from *Pegu*; it is cleaner than the other, of a more aſtringent Taſte, and melts upon the Tongue; it is commonly in ſmaller Lumps, and compoſed of a great number of thin Strata lying one cloſe on another, blackiſh on the outſide, and of a paler mixed Colour within.

The Mixed is in large Lumps like Clods of Earth, it is brought from many different Parts of the *Eaſt-Indies*; and it is evident to the Taſte, that the ſeveral Parcels of it from different Places, contain different Juices or Decoctions mixed with the *Areca* Juice in a greater or leſſer Proportion.

The greateſt Quantity we have of this is from *Malabar*, in which it is eaſy to diſcover two or three different Taſtes; and a careful Diſſolver may often diſcover two or three different Subſtances in it, for the *Fæcula* it depoſits are not wholly of the vegetable kind. I have often found, in the Paper I have filtred, a Solution of this kind of *Terra Japonica* through a Matter reſembling burnt Hartſhorn, which was probably the Calx of calcined Shells, which in ſome Places is uſed in making it. The different Taſtes in the ſeveral Kinds of the mixed *Terra Japonica*, have led People of fertile Imaginations to gueſs different vegetable Subſtances as the Ingredients; among others, *Calamus Aromaticus*, *Liquorice*, and the reſt named by our Authors; but, the Truth is, we are wholly ignorant what the Mixture conſiſts of; and, in all probability, it may be of Drugs, of which not even the Names are known with us: It were, however, to be wiſhed Apothecaries would only uſe the Simple, as I can, upon long Experience, affirm it to be more certain in its Effects; and, as in the other, we never are ſure what we give, different Parcels of it containing different Ingredients.]

2. *Of* Sealed Earth.

Pomet. *Terra Sigillata*, or *Sealed Earth*, is a kind of white *Bole*, ſometimes a little reddiſh, that is moiſtened with Water, and afterwards formed into little Cakes, roundiſh, of the bigneſs of one's Thumb, upon which are ſtamped ſeveral Characters. The Variety of Figures, Colours, and different Seals that are found upon the *Terra Sigillata*, makes me think that every one makes it up according to his Fancy; and that it is nothing but a fat aſtringent Earth, more or leſs coloured, reduced into ſuch Cakes as are brought us. I ſhall not ſtop here to relate all the fabulous or true Stories which the Antients have told concerning the Place whence this Earth comes, and the Ceremonies uſed when it is gathered, nor how the *Grand Signior* ſigns it with his own Seal, *&c.* but I ſhall tell you, that the Earth that is moſt uſed and eſteemed, is that which is in little reddiſh Cakes, the leaſt ſandy or gravelly, and the moſt aſtringent that you can get.

It is much uſed in Medicine, becauſe of its aſtringent Quality: It is alſo an Ingredient in the *Venice Treacle*, and needs no other Preparation than to be clean and have the above deſcribed Qualifications.

As to the Earth of *Lemnos*, it is the ſame with the Sealed Earth, but in its natural State, without any Impreſſion upon it.

Lemery. *Terra Sigillata, Terra Lemnia, Sealed*, or *Lemnian Earth*, is a kind of Bole, or fatty, clayey Earth, that is dry, ſoft, and fryable; ſometimes yellowiſh, whitiſh, or reddiſh; inſipid and aſtringent to the Taſte. They bring it ſometimes into the Iſle of *Lemnos*, but it comes at preſent from *Conſtantinople*, *Germany*, *Blois*, and ſeveral other Parts. It comes ordinary formed into little round Cakes about the thickneſs of one's Thumb,

Thumb, roundiſh on one Side, and flat on the other, by a Signet engraved with ſome Arms or certain Devices that the Prince of the Country cauſes to be put upon it; and this is the Reaſon why it is called *Sealed Earth*. That of the Ancients was yellow, and made into Cakes much ſmaller than theſe at preſent are; and had engraved upon them the Repreſentation of a Goat.

Chuſe your ſealed Earth that is ſoft to the Touch, clayey, apt to crumble, and of a whitiſh red Colour, that will cleave to the Tongue. They tinge or colour it ſometime with Turmerick, or ſome other Drug, to make it come up to the Colour of the Ancients, which was the true *Lemnian* Earth, and was taken from a Hill where no Plant grew. The *Turks*, who are the preſent Maſters of it, mix this with other Earths of the ſame Nature; and having kneaded them together with Water, make them up into little round Cakes, which they ſeal with the *Grand Signior's* Signet to make it pay Duty. This Earth is a good Antidote againſt Poiſon, proper for Fluxes, Hemorrhages, Gonorrhœa, Whites, and Vomiting. Doſe from half a Scruple to two Scruples. It is outwardly uſed to ſtop Blood, dry up Wounds, and ſtrengthen the Joints.

[The true *Lemnian* Earth is yellowiſh with Specks of brown, this is ſometimes to be met with unſealed, and in its natural State; the ſealed uſed in the Shops is of two kinds, the white and the red, the red is moſt eſteemed, and is the *Terra Lemnia rubra Worm.* 10. *Charlt. Foſſ.* 5. *Terra ſigillata Turcica rubra. Mont. Ex.* 14. It is a fat viſcid ſlippery Clay of a pale red Colour, it is brought to us in Cakes of about three Drachms weight, ſealed, and is dug in the Iſland of *Lemnos*, and many Places in the *Turkiſh* Dominions.

The white is the *Terra Lemnia ſigillita Alba Worm.* 9. *Charlt. Foſſ.* 5. *Terra ſigillata Turcica Alba. Mont. Exot.* 14. It is leſs fat and of a more aſtringent Taſte than the other, and is dug only in the Iſland of *Lemnos*; but both this and the other are often counterfeited. Beſide theſe there is alſo another kind.

Great Virtues were always aſcribed to theſe Earths, and a Number of idle Ceremonies uſed in the digging them. At preſent it is a matter of ſome Ceremony; for there is but one Day in the Year in which the Pits are opened for the digging them, and the *Greek* Prieſts aſſiſt at the Ceremony, and rehearſe certain Forms of Prayer.

They are good Medicines in Dyſenteries, Hæmorrhages, &c. if genuine, but are ſo ſeldom found ſo, that they are grown almoſt entirely out of Uſe. There are beſide theſe a Multitude of other *Sealed Earths* common in the Shops, but they are moſt of them Counterfeits, made up of different Mixtures of Tobacco-Pipe Clay, and red or in yellow Oker.]

3. *Of* Fine Bole, *or* Bole Armoniack.

IF we have ſeveral Sorts of ſealed Earths, *Pomet.* we have not leſs of *Boles*, whereof the moſt eſteemed is that which has its Name from the *Levant*, or *Armenia*, either becauſe it formerly was brought from thoſe Parts, or that thoſe who deal in it may make it ſell the better; but as I have never ſeen any of that, and what we now ſell is found in ſeveral Parts of *France*, I muſt inform you the beſt is that we have from about *Blois* and *Saumur*, or from *Bourgogne*, and which is of various Colours, as grey, red, and yellow. The yellow is the moſt valued, becauſe it paſſes the readieſt for the true *Bole* of the *Levant*, and becauſe it fits the Gilders beſt.

As theſe *Boles* are the deareſt, becauſe of the Charge of tranſporting them to *Paris* from *Blois* and *Saumur*, we prefer that of *Baville* and other Places about *Paris*, becauſe the Peaſants bring it us at a cheaper Rate than we can buy the other. All theſe kinds of *Bole* to be good muſt be tender, friable, ſoft in handling, not ſandy, ſhining, and aſtringent to the Taſte, that is to ſay, ſuch as, when you put them to the Tongue or Lips, you cannot eaſily get them off. They are very drying and aſtringent, good againſt Fluxes and Gleets, thicken thin Humours, reſiſt Putrefaction, and expel poiſonous Bodies. They are likewiſe uſed in ſpitting of Blood, bleeding Wounds; and alſo to conſolidate broken Bones, and ſtrengthen weak Limbs.

Bolus, or *Bole*, is a ſoft, brittle, reddiſh, or yellow Earth, which is brought to us in Pieces of different Shapes and Sizes. *Lemery.*

The fineſt comes from the *Levant* and *Armenia*, called *Bolus Orientalis, ſeu Bolus Armena*; but all the *Bole* we have, which is in uſe amongſt us at preſent, is brought from ſeveral Parts of *France*, and the beſt is about *Blois* or *Saumur*. As there is found in the Quarries or Pits a great deal of coarſe or gravelly *Bole*, they waſh it to free it from the Gravel, then make it into a hard Paſte, which they form into ſquare Sticks about a Finger long, which is called *Bole in the Stick*, and which is uſed externally. *Bole* is aſtringent and deſiccative, proper to ſtop Looſeneſs, Dyſentery, Spitting of Blood, to ſweeten the Acids, being taken inwardly. There is alſo a great deal uſed externally to ſtop Blood, prevent Fluxion, and ſtrengthen and conſolidate.

ſolidate. That which is called white *Bole* is an aſtringent Marle, but not ſo efficacious as the red *Bole*.

[There are many different kinds of *Bole* mentioned by different Authors, but the two in principal uſe at preſent are, the *Bole Armenick*, and *Bole* of *Blois*. The firſt is the *Bolus Armena orientalis Mont. Ex.* 13. *Bolus Orientalis Charlt. Foſſ.* 5. *Bolus ſeu terra Armenia Aldr. Muſ. Met.* 269. *Bolus Armenius verus Kentm.* 7. It is to be obſerved that the true *Bole Armenick* is almoſt wholly unknown in the Shops. It is brought from *Turky*, and is of a Saffron Colour. What we ſell under the Name of *Bole Armoniack*, is a kind of pale red Oker from *Spain* and *Normandy*, and what is much more common than that in the Shops of our petty Druggiſts is a Mixture of *Engliſh* red Oker and Pipe-makers Clay, formed into Cakes and dried.

The *Bole* of *Blois* is the *Bolus Bleſenſis Ind. Med.* 21. It is a fine Earth of a yellowiſh red Colour in thin beautiful Strata, but is very ſeldom found genuine in the Shops, what is commonly ſold by our Druggiſts for it being only a red Oker and Pipe-makers Clay, like the common *Bole Armenick*, only with leſs Proportion of the Oker. The *Bole* mentioned by *Galen* was the ſame with that of the later *Greek* and *Arabian* Authors, his being deſcribed to be pale, and their's of a Saffron Colour.

The other *Boles* mentioned by Authors are 1. the *Bolus Bohemica, the German Bole.* 2. *Bolus Gallica vulgaris, red French Bole.* 3. *Bolus Toccavienſis*, the *Tranſylvania Bole.* 4. *Rubrica Synopica, Earth of Sinope. Bolus Armena lutea, yellow Armenian Bole.* 6. *Bolus candidus, white Bole.* And 7. *Bolus Armena Alba, white Armenian Earth.* But none of theſe are now ever preſcribed, or kept in the Shops.]

Of Oker.

Pomet. THE yellow and red *Oker* is one and the ſame Thing, for the natural Colour is yellow, and it is turned red by Means of a reverberating Furnace, in which they put it, to make it red by the Force of the Fire: The beſt Mines of *Oker* in *France*, are in *Berry*; and among the reſt, one is at a Place called *St. George*, upon the Side of the River *D'Ucher*, two Leagues from the City *Vierzon* in *Berry*, where they dig it out of the Earth, as they do Pit-Coal. This *Oker* is found 150, or 200 Feet deep in the Earth, from four to eight Inches thick; they find under this *Oker* a white Sand, like that of *Calais*, and above the *Oker* a yellow Clay good for nothing.

There comes likewiſe a yellow *Oker* from *England*, which is browner than that of *France*, but not ſo good, becauſe it is naturally drier; it comes from a ſtony Earth which they are forced to grind in a Mill; whereas that of *Berry* is natural, fatter, and works better in Oil; ſo that the *Dutch* cannot uſe the *Engliſh Oker*, but when they mix it with an equal Share of that which comes from *Berry*.

Both Sorts are uſed by the Painters; but that which is moſt ſet by, is that which is dry, ſoft, friable, of the higheſt Colour, and leaſt gravelly.

There comes beſide a *Red Oker* from *England*, which we commonly call *Brown Red*; this is uſed by the Painters; but that which is of a much deeper Colour is called *Putty*, and they employ it in poliſhing of Glaſs.

Ochra, in *Engliſh Oker*, is a Maſs of Earth that is dry, fat, will crumble, and is ſoft to the Touch, of a yellow or Gold Colour, that is taken from ſome deep Pits in *Berry*. They calcine it in the Fire, 'till it gains a red Colour, and then it is called *Red Oker*; both ſorts are uſed by the Painters; they are reſolutive, drying, aſtringent, being externally applied. *Lemery.*

[*Oker* is a kind of Earth found in *England*, and many other Places. It is of two principal kinds, the yellow and the red, and both natural, and dug out of the Earth in great Plenty. Tho' it is alſo true, as common Experience ſhews, that the yellow will become red in burning. The natural *Red Oker*, Ruddle, or Marking-ſtone, is the *Rubrica fabrilis Merr. Rin.* 218. *Rubrica Charlt. Foſſ.* 2. *Worm.* 4. It is weighty, of a deep red, and of an aſtringent Taſte, and is dug in *Herefordſhire*, *Hampſhire*, and *Lancaſhire*. It is drying and aſtringent, but is ſeldom preſcribed, tho' very frequently uſed as a part of the common *Bole* as mentioned in the laſt Chapter.

[The yellow is the *Ochra Aldr. Muſ. Met.* 255. *Ochra Foſſilis ſeu nativa crocei coloris Dougl. Ind.* 64. *Ochra nativa ſeu ſil. Goſlarienſibus Kentm.* 8. It is of a ſtrong yellow Colour, and aſtringent Taſte, but is never uſed in Medicine.]

5. *Of* Terre Verte.

WE ſell two ſorts of *Green Earth*, to wit, that of *Verona*, which is brought from about *Verona* in *Italy*, whence it takes its Name, and the common Green. *Pomet.*

The Earth of *Verona* ought to be ſtony, and as green as may be, and take care that it be not inlaid with Veins of Earth.

The

The common Green ought alſo to be of the greeneſt, and as near reſembling that of *Verona* as you can get.

Terra Viridis, in *French*, *Terre Verte*, *Lemery.* is a dry Earth, of a green Colour, which is brought from *Verona* in *Italy*, and is for the Painters Uſe.

[This is an Earthy Subſtance, impregnated with Copper, to which it owes its Colour. It is found in many Countries, particularly in *England*, about *Godſcalp* in *Cumberland*, adhering to the Sides of the great Copper Vein there, being brought by the Water which is perpetually trickling down the Sides.

It is uſed by the Painters, but not in Medicine. The Sort commonly uſed by them is brought from the Pope's Dominions, and is found in Mountains not far from *Rome*; it is ſomewhat unctuous, and adheres ſlightly to the Tongue. It needs no farther Preparation for their Uſe than being powdered and ground with Oil, and makes the moſt true and laſting Green of any ſimple Body they uſe.]

6. *Of* Cologn Earth.

Pomet. *Cologn Earth* is an Earth altogether like that of *Umber*, excepting only that it is browner: This is of ſome Uſe to the Painters. You muſt chuſe ſuch as is tender, eaſy to crumble, the cleaneſt, with as little Mixture of Dirt as poſſible.

7. *Of* Umber.

UMBER, ſo called becauſe of its being uſed in drawing Shades, is brought to us from *Ægypt*, and other Places of the *Levant*, in Lumps of different Bigneſs.

In the Choice of this Earth, you ought to take that which is ſoft, in large Pieces of a brown Colour inclining to the red, for this is better than the grey.

Its Uſe is for the Painters, and before it is ground it is uſual to burn it, as well for Painting in Oil as for the Glovers, which makes it become more reddiſh; the Fume of it ought to be avoided, as being ſtinking and offenſive.

8. *Of* Tripoly.

Pomet. THE *Tripoly* is of two kinds in *France*; the one they bring from *Poligny* near *Renne*, in the lower *Bretagne*; the other from a Place called *Mienna* near *Rion* in *Auvergne*. That of *Bretagne* is moſt eſteemed, and the beſt, being more proper for *Lapidaries*, *Goldſmiths*, *Braziers*, and all other Workmen: It is taken from a Mountain at twenty or thirty Feet of Depth, and is found in Veins or Beds of about a Foot Thickneſs: They carry it to *Redon*, where it is ſhipped and tranſported to *Nants*.

That of *Auvergne* is not ſo valuable, being not at all fit for the Uſe of Jewellers, Goldſmiths, or Braziers, becauſe it has not Subſtance; it riſes into thin Leaves like Paper, when it is dry. It is only uſed for ſcouring Houſhold Stuff, and is found almoſt in the very outer Surface of the Earth.

'Tis ſaid that *Tripoly* is a Stone that becomes light by Means of certain Veins of ſulphurous Earth that have burnt under the *Tripoly*, and which gives it the Quality of whitening, poliſhing, and brightening the Copper.

There are alſo Mines of *Tripoly* in *Italy*, and other Places; but as this Commodity is of little Value and Conſumption, it is not much ſought after; beſides which we have it in *France*, and there is no Occaſion to bring it from other Parts.

Lemery. *Alana*, in *French Tripoly*, is a light white Stone, tending a little to the red, which they take from ſeveral Mines of *Bretagne*, *Auvergne*, and *Italy*. 'Tis believed that the Lightneſs of this Stone proceeds from its being calcined by the ſubterranean Fires. We have two ſorts in *France*; the firſt, and the beſt is that from a Mountain near *Renne* in *Bretagne*. It is found laid in Beds of about a Foot thick, and is uſed by the Lapidaries, *&c.* to whiten and poliſh their Works. The ſecond Sort is brought from *Auvergne*; this divides itſelf into Flakes or Leaves, and is of no Uſe to the Lapidaries or Braziers, but ſerves to ſcour Pots and Kettles, and other Utenſils belonging to the Kitchin: It is deterſive and drying applied outwardly, but is not uſed in Medicine.

[The Officinal *Tripoli* is the *Tripolis*, *Schrod.* 320. *Terra ſeu Gleba Alana*. *Call. Muſ.* 131. It is an earthy Subſtance of an aſtringent Taſte. It is of many Uſes among Workmen in different Trades, but is never heard of in Medicine, tho' ſome have commended it as an Aſtringent.]

9. *Of* Indian Red.

Pomet. THE *Indian Red*, or *Perſian Earth*, is what we improperly call *Engliſh Red*; it is a very dear Drug, eſpecially ſuch as is in little Pieces, moderately hard, and of a high Colour. This Red is uſed by none but the Shoemakers, who ſteep it in the White of an Egg to colour Shoe-Heels with.

We have beſides theſe ſeveral other Sorts of Earths as they come from the Pits; as Marle, that

ſome

ſome ſell by the Name of *White Bole*, and many waſhed Earths; as *Roüen White*, that of *Seve* and *Port Neuille*, *Champagne Chalk*; there are alſo others which we know of, but ſell none, as the *Smectis*, commonly called in *England*, *Fuller's Earth*, which is a fat, ſmooth, ſticking Earth that is heavy, ſometimes blackiſh. This is much uſed by the Clothiers in *England*; and becauſe this Earth does almoſt the ſame Thing as Soap, the *Latins* call it *Terra Saponaria*, or *Soap Earth*. As alſo the *Mexican Earth*, a very white Earth, which the People of *Mexico* make uſe of to whiten with, and in Medicine like Ceruſe; likewiſe it ſerves to poliſh Silver.

The *Marga*, which is a kind of white Stone very like *Champagne Chalk*. The *Lithomarga*, or *Stenomarga*, which is what we call *Stone Pith*, or *Mineral Agarick*, or *Moon Milk*; this Stone is found in the Chinks or Apertures of the Rocks in ſeveral Parts of *Germany*; and different Names have been given to this Stone; it is very white and crumbling, and this Whiteneſs comes from its being calcined by the Vapours which ariſe from Metals.

There are, beſides, ſeveral other Sorts of Earths, as the *Eretrian Earth*, the *Samian Earth*, *Chio*, *Selinuſian* and *Cimolian Earths*, and *Tobacco-pipe Clay*; with many others, whereof ſeveral Authors make mention.

As to the Preparation of Stones or Earths, that is done ordinarily two Ways, that is to ſay, by grinding on a Porphyry or Marble, in like Manner as Pearl, Hyacinth, Topazes, Emeralds, Sapphires, Corals, Loadſtone, *Lapis Calaminaris*, Tutty, and the like, are ground. The ſecond grinding in a Mortar with Water, in order to get the fine Powder, as we do Litharge, Ceruſe, and *Minium*. The firſt, after they have been levigated, are made into Cakes with Roſe Water, and the others into Tablets with common Water.

Lemery.

Terra Perſica, or *Indian Red*, is a dry red Earth that is brought us in little Stones that are of a moderate Hardneſs. The Shoe-makers uſe them to dye Shoe-Heels red; chuſe the deepeſt coloured. *Terra Saponaria*, in *French Smectin*, or *Fuller's Earth*, is a kind of ſlippery glutinous Earth, that is heavy, of a yellow or blackiſh Colour, and does the ſame Thing as Soap, whence it was called *Soap Earth*, or the Earth the Fullers uſe to ſcour with. The *Terra Selinuſia* is a greaſy or clayey Earth, that is very like that of *Chio*; it is aſtringent and reſolutive, proper to take away Spots and Chops of the Skin, to ſoften Tumours of the Breaſt and Teſticles, and to reſolve. The *Chio* Earth is a kind of ſealed Earth, or a fatty, ſticky, aſh-coloured Earth, that is brought from *Chio*: it is aſtringent, and removes Spots, *&c.* *Terra Samia*, or *Samian Earth*, is what comes from the Iſle of *Samos*, and is of two kinds; one is ſoft, white, and crumbling, that ſticks to the Tongue when applied to it, and is very like *Sealed Earth*. Some People call it *Collyrium*, becauſe it ſerves ſometimes to relieve the Eyes; the other is cruſty and hard, tho' ſomething unctuous; they call this *Samius Aſter*, becauſe it is found in ſhining Spangles, like Stars.

Beſides theſe, there is *Marga*, *Lithomarga*, *Stenomarga*, *Medulla Saxorum*, *Agaricus Mineralis*, *Lac Lunæ*, or *Stone Pith*, *Mineral Agarick*, or *Moon Milk*, which is a kind of ſoft, friable, pithy, very white Stone, reſembling Chalk, which is found in the Clefts of Rocks in ſome Parts of *Germany*; it is deterſive, aſtringent, drying, conſolidating, diſſolves coagulated Blood, and may be uſed inwardly and outwardly.

Mr. *Pomet*, at the End of his Chapter of the Foſſil, Unicorns Horn, obſerves that there is ſome of this *Stone Pith* found on the Side of the Signiory of *Moſcau*, belonging to the Elector of *Saxony*, and near *Gironne* in *Catalonia*; where the Inhabitants chuſe from among this Earth, after the Sun is down and has warmed it, little Balls like Meal, with which they make Bread, mixing it with ſome true Flower, which has been confirmed by ſeveral other Naturaliſts.

[The *Perſian* Earth is got in great Quantities in the Iſland of *Ormuz* in the *Perſian Gulf*, and carried thence to *Surat*, *Bengal*, and other Parts of the *Eaſt Indies*, where it is uſed in painting Houſes, Ships, *&c.* It is a red Oker, and we have in *England* an Earth of a brighter Red, and much preferable to it, found in the Fiſſures among Iron Ore in the Skrees in *Cumberland* and elſewhere.]

The Earths afterwards mentioned by our Authors, and a Multitude of other Marles, Chalks, and Clays beſide, hold their Places in the Catalogues of Officinal Minerals of ſeveral Authors, but as they are ſcarce ever preſcribed, or kept in the Shops, it would be but tedious and unneceſſary to give the Hiſtory of each of them in this Place; inſtead therefore of ſwelling the Book with that, I ſhall add, in the few following Pages, a ſhort Account of ſuch Drugs as are in Uſe among us, and are not mentioned by our Author, ſome of which I ſuppoſe he omitted thro' Forgetfulneſs, and others to have been only known ſince the time he wrote.]

APPENDIX

APPENDIX
TO
POMET's *Hiſtory of* DRUGS.

CHAP. I.
Of BITUMENS.

Of Barbadoes Tar.

BARBADOES Tar, as it is commonly, but improperly, called, is the *Piſſelæum Indicum Offic. Bitumen Barbadenſe*, Boerh. Chem. *Pix Berbados*, Boerh. Theſaur. Pharm. 108. It is of the Number of the liquid Bitumens, and is about the Conſiſtence of Tar, of a duſky reddiſh black Colour, and ſtrong bituminous, diſagreeable Smell. It is brought to us from the Iſlands of *Barbadoes*, *Nevis*, and *St. Chriſtophers*; but uſed to be moſt plentifully from the firſt, whence it had its Name. It oozes out of the Earth in ſmall Quantities in many Places, and is generally found in digging at about fifteen or twenty Feet from the Surface of the Earth, mixed with Water; but what we receive of it is in general not dug, but gathered from the Waters, on which it ſwims like the *Aſphaltum*, and ſome other Bitumens, having found its way into them by oozing from their Banks or Bottoms; this is preferred to what is dug, not only becauſe it is more eaſily come at, but becauſe it is cleaner, and of a better Smell; the firſt is owing to the waſhing it has in Storms, and the laſt to the Exhalation of ſome of its fetid Oil by the Heat of the Sun.

It is a coarſe unpleaſant Medicine, but certainly an admirable Balſamick; and the common People, by whom it is much more uſed than by the Apothecaries, find it of great Efficacy in obſtinate Coughs, and many Diſorders of the Breaſt, but they have ſometimes found Miſchief enough by it, by not knowing the general Caution, of avoiding all Things of this Claſs in Inflammatory Diſpoſitions.

Externally, which was the firſt Way it came into Uſe, it is a good Digeſtive: and is a mighty Remedy with ſome for Agues, tied about the Wriſts and Feet.

Beſide theſe Virtues, which indeed are more known and oftener experienced by the common People than by thoſe who deal in it, it ſerves our *London* Druggiſts and wholeſale Apothecaries in two different Capacities; mixed with a ſmall Quantity of Oil of Aniſeed, it makes the famous Balſam of *Chili*, ſo much talked of ſome Years ago, and of which ſome Perſons have yet a great Opinion; and a ſmall Quantity of it put into Oil of Turpentine, turns it into what they call and ſell for Oil of Spike.

As to the Choice of it; it ought to be clean, clear, and fluid, of a middle Colour between common Tar and Treacle, of a nauſeous bituminous Taſte and diſagreeable Smell.

CHAP. II.
Of Oil *of* Earth.

THE *Oil* of *Earth*, *Oleum Terræ Offic.* Lem. Ind. 388. is a thin, fluid Bitumen, very inflammable, of a nauſeous Taſte, and ſulphureous, penetrating, diſagreeable Smell; it oozes out of Rocks on the Sides of Mountains in *Aſia*, *Perſia*, and the *Eaſt-Indies*, and is of two Kinds, the red, and the black, as it is called, though that truly is of a duſky purple Colour; both kinds are found in the ſame Mountains, the dark-coloured near the Foot of the Mountain, and the red higher up. They have been brought to us from many different Parts of the *Eaſt-Indies*, but are ſeldom uſed or kept in the Shops at preſent, the *Petroleum*, of which they are alſo a kind, being generally ſold in their Places.

Authors,

Authors, however, are too hasty in affirming them to be the same with *Petroleum*; their having the same Production is but an idle Reason, and I have at this Time before me a small Quantity of the dark-coloured Oil, given me by a Person of Veracity, a Surgeon of an *East-India* Ship, who catched it from a Rock himself in the Island of *Sumatra*, which is evidently different from all the Kinds of *Petroleum* I have yet seen, both in Taste and Smell, in both which it evidently shews that it contains a Sulphur not to be found in any of the other liquid Bitumens.

Beside this natural *Oleum Terræ* of the *Indies*, there is sometimes brought from thence a thick browniſh Oil, of a fat insipid Taste, and without Smell, called also *Oil of Earth*; this generally comes in earthen Vessels, and is seldom found in the Shops, but often carefully kept and much esteemed by Persons who have been in the *East-Indies*, and seen the Cures that have been attributed to it. It is a compound Oil, made principally by the *Chinese*, from certain medicated Earths crumbled to a kind of Powder, and boiled in an expressed Oil made from the Fruit of one of the Cocoas.

The natural *Oleum Terræ* is in great Esteem with the Natives for all cutaneous Eruptions; they take it inwardly, about half a Dram for a Dose; and use it externally also as an Ointment to the Sores: They also give it to Children in Convulsions, and to their Women in Labour. With us it is scarce ever seen or used.

The factitious is their great Remedy against the the Bites of envenomed Creatures, and their most esteemed and general external Application in Tumours of all kinds.

As to the Choice of these Oils, little need be said, they are so seldom to be met with genuine now; however, the sulphureous Smell which is peculiar to the first kind distinguishes it from all others. The other, if it were of common Sale, might be easily counterfeited, but as it is only to be found in the Hands of those who have themselves imported it, there is no great fear of its being other than genuine.

CHAP. III.

Of STONES.

Of Irish Slate.

IRISH Slate is the *Lapis Hibernicus Offic. Lapis fissilis Hibernicus Charlt. Foss.* 13. *Ardesia Hibernica, Tegula Hibernica, Ind. Med.* 57. It is a heavy, fattish, flaky Stone, soft, and of a bluish or greyish Black, of an aluminous and earthy Taste, and without Smell; it is dug in many Places in *England* and *Ireland*, and we have it brought to the Shops in Glebes of different bignesses.

It is by some said to be a good Medicine in Intermittent Fevers, but its great Use is in Contusions and inward Injuries, in which Cases the common People found great Benefit by it, and long used it before it was known in the Prescriptions of Physicians; it has, however, of late been found to exceed almost all Things in Hæmorrhages of all kinds.

As to its Choice little need be said, as it is too cheap to be worth adulterating; the softest and such as separates into Flakes the easiest is the best. One thing, indeed, I may add as a Caution, though I hope unnecessary, which is, to see that there is not Cobalt accidentally mixed among it: It is a thing not likely to happen often, but as I have known two Instances of it, and as it is a thing of very fatal Consequence if it does happen, I thought it well to mention it. The Description given already of Cobalt in its proper Place, will shew how to distinguish them, which indeed is very easy were it only by the different Hardness; and the Instances I have known of it are; the one, the Death of a poor Woman, who perished within a few Hours after taking it, and had all the Symptoms of those who have been poisoned by Ratsbane; and the other, that among a Quantity I bought in the Year 1742, I found a fair Piece of Cobalt, of more than four Ounces weight, which I still have by me: This convinced me, that I had before guessed right, in my Opinion of the Occasion of the Woman's Death, and obliged me to throw away the Parcel of *Lapis Hibernicus* it was among, as I would advise every one to do wherever any of it is found, small Pieces of it being not easily discoverable among the small Pieces of the other, and a very little of it being sufficient to produce fatal Consequences, as it is the strongest of all Poisons.

CHAP. IV.

Of VEGETABLES.

Of Moxa, *or* China Gout-Cotton.

THE *China Gout-Cotton*, as it is called, or *Moxa* of the Shops, is a thready Substance, made of the fibrous Parts of the Leaves of *China Mugwort*. The *Artemisia Chinensis, cujus Mollugo Moxa dicitur, Plu. Phytogr. Tab.* 15. *Hist. Ox.* 3. 5. *Artemisia Orientalis, vulgaris facie, Act. Philos. Lond.* N° 276. *Musia Pattræ. Malab. Moxa, Kempf. App.* 27. It is of no other Use in Medicine than the laying a small Heap of it upon the

the Foot, and burning it there, as a Remedy for the Gout. Its Virtues on this Account have been much celebrated, but there do not ſeem many at preſent who have any great Faith in the Accounts.

CHAP. V.

Of Couhage, *commonly called* Cow-itch.

COUHAGE, commonly called *Cow-itch*, is a downy or hairy Subſtance, growing on the out-ſide of the Pod of the *Couhage* or Stinging Kidney-bean of the *Eaſt-Indies*; the *Phaſeolus Zurattenſis ſiliqua hirſuta Couhage, dicta, Rai. Hiſt.* 1. 881. *Phaſeolus ſiliqua hirſuta, Park.* 1056. *Phaſeolus pruritum excitans hirſutie ſiliquarum, Ger. En.* 1215. *Phaſeolus Zurattenſis ſiliqua hirſuta pungente, Hiſt. Ox.* 269. The Pods of this Plant are ſmaller, ſhorter, and rounder, than thoſe of the common Kidney-bean; and the Hair that inveſts them, plentiful, ſhort, and of a ſhining Brown: They are brought to us from the *Eaſt-Indies*.

The Down or Hair is of no Uſe but to play Tricks with, cauſing a troubleſome Itching where-ever it touches the Skin: The Beans taken out of the Pod, and reduced to Powder, are a common Medicine in *Barbadoes* for the Dropſy.

CHAP. VI.

Of Caſſumunar.

CASSUMUNAR, called alſo *Caſſummuniar*, *Caſmunar*, and *Ryſagon* or *Riſagon*, is the Root of the *Zedoaria Radice lutea, Breyn. Prodr.* 2. 105. *Zerumbeth ſeu Zinziber rubrum ſylveſtre, Ternatenſe. Camel. Syll.* 65.

It is a tuberoſe Root, of the Thickneſs of one's Thumb, and covered with Protuberances like thoſe of the *Galangal*; of a duſky brown on the outſide, and a pale yellow within; of a bitteriſh aromatick Taſte, and agreeable Smell.

It is brought to us by the *Eaſt-India* Company from *Bengal* and *China*; it is a noble Medicine, and found of great Uſe in all nervous Caſes, Apoplexies, Palſies, Vertigoes, and hyſterick and hypocondriac Affections; it is alſo carminative and aſtringent.

It is to be choſen in large Pieces, ſound, firm, and hard to powder; of a bright yellow within, and of a piercing lively Smell, and aromatick Taſte.

CHAP. VII.

Of Salep.

SALEP, called alſo *Saleb*, and *Serapias* in the Shops, is the Root of the *Orchis fœmina procerior majore flore, Tourn. Herb. Par.* 508. which indeed ſeems to be no other than our common female Orchis. The *Orchis morio fœmina, Park.* 1347. *C. B. Bin.* 82. *Cynoſorchis morio fœmina, Ger.* 158. with the Advantages of a warmer Climate, in which it grows to a greater ſize.

It is a whitiſh oblong Root, a little flatted and wrinkled in the drying, tough and hard to be powdered, of a Taſte ſomewhat reſembling Gum Tragacanth, and without Smell.

It is brought to us from *Turky* and *Perſia*, and grows in the greateſt abundance and perfection on the Mountains of *Burſia* near *Conſtantinople*.

It is a great Reſtorative, and is good in all Decays; it is alſo eſteemed a Provocative and Remedy againſt Barrenneſs. The *Turks* have it in great eſteem; their manner of taking it is boiled with Honey, Ambergriſe, and Ginger, and drank hot in the manner of Chocolate. The general manner of uſing it here, is to put about a Tea-ſpoonfull of the Powder of it into a Baſon of warm Water, which it turns into a Jelly.

It is to be choſen firm, hard, and tough; and the great Caution is, that it be neither worm-eaten nor mouldy.

CHAP. VIII.

Of Elatherian Bark.

THE *Elatherian Bark*, called alſo the *Indian Bark*, and *Caſcarilla*, is the *Cortex Thuris nonnullis dictus vel Thymiama, Rai. Hiſt.* 2. 1841. *Schakarilla Chakarilla, Mont. Exot.* 8. *Elaterii vel Elatherii Cortex Thymiama, Schrod.* 4. 166. *Palo de Calenturas quibuſdam Eleaterium, Lem. Ind.* 203.

It is a thin firm Bark, rolled up into hollow Quills, as they are called, like the *Cortex Peruvianus*, commonly in ſmall Pieces of the thickneſs of Cinnamon, ſmooth, and of a duſky browniſh Colour; for it is generally brought to us ſtripped of its outer Rind, which is of a whitiſh Grey, and rough. It is of a ſharp aromatick bitter Taſte, and an agreeable Smell, ſomething like that of Amber.

There have been various Conjectures about the Tree which produces it, ſome believe it to be

the Νάσταφθον or Νάρταφθον of *Dioſcorides*, lib. i. c. 22. and *Cæſalpinus*, *Amatus*, *Parkinſon*, and *Caſpar Bauhine*, have all different Opinions about it, which of them, or whether either of them is in the right, is yet unknown.

It is ſometimes brought from the *Eaſt-Indies*; but we have it principally from *Elatheria*, one of the *Bahama* Iſlands, whence it has its Name.

It was firſt taken notice of for an agreeable Oil which it yields by Diſtillation, which was formerly much uſed to put into Snuff, to give it an agreeable Smell; but it is now come into Uſe internally, Mr. *Stahl* having ſtrongly recommended it as an excellent Medicine in Diſorders of the Lungs, and a good Stomachick. *Apenus*, a *German* Phyſician, has alſo written a Treatiſe about it, in which he praiſes it in malignant Fevers, the Plague, Dyſenteries, and Weakneſs of the Inteſtines.

It is to be choſen light, but firm, ſmooth, and of a lively agreeable Smell, and as freſh as may be, for it loſes much in keeping.

CHAP. IX.

Of Elaterium.

ELATERIUM is the inſpiſſated Fæculæ of the Juice of the Wild Cucumber, the *Cucumis Agreſtis, ſive Aſinius*, *Park.* 161. *Cucumis Elaterium*, *Rivini Rupp. flor. gen.* 41. *Cucumis Elaterium Officinarum*, *Boerh. Ind.* 77.

It is uſually met with in ſmall flat whitiſh Lumps or Cakes, dry, and eaſily breaking between the Fingers; of an acrid nauſeous bitter Taſte, and ſtrong diſagreeable Smell when freſh made; but that, as alſo indeed a great part of its Virtue, it loſes in keeping.

What we have of it is brought from *Spain* and the ſouthern Parts of *France*, where the Plant is very common.

It is a very violent Purge and Vomit, and is now very ſeldom uſed; the Doſe is from two to four Grains. The lighteſt, cleaneſt, and freſheſt is to be choſen.

CHAP. X.

Of Jamaica Pepper, *or* All-Spice.

PIMENTA, or *Jamaica Pepper*, is the dried unripe Fruit of the *Myrtus arborea foliis Laurinis aromatica*, *Act. Phil.* 192. the *Piper odoratum Jamacenſe noſtratibus*, *R. Hiſt.* 2. 1507. *Piper Caryophyllatum*, *Piper Jamaicenſe*, *Mont. Exot.* 9. *Caryophyllus aromaticus Americanus Lauri acumina-to folio fructu orbiculari*, *Pluk. Alm.* 88.

It is an orbicular Fruit, with a duſkiſh, rough, hard, umbilicated Rind, containing within it two black Kernels, of an aromatick Smell and Taſte approaching to that of Cloves, and partaking in ſome degree of that of all the other Spices beſide, which occaſioned our calling it *All-Spice*.

The Tree which produces it riſes to thirty or forty Foot high; the Leaves are like thoſe of the Bay, and very aromatick; the Flowers ſtand in Bunches, and are greeniſh, and compoſed of four Leaves bent backwards; theſe are ſucceeded by the Fruit, which the Negroes gather before it is ripe and dry it in the Sun; they become wrinkled and brown in the drying, tho' they were ſmooth and green while gathered. The Tree grows in hilly Places in the north Part of *Jamaica*.

It is an admirable Aromatick, and its Oil, by Diſtillation, is a very excellent one, and ſinks in Water like Oil of Cloves.

CHAP. XI.

Of the Root Niſi, *or* Ginſeng.

GING-GING is a Plant to which the *Chineſe* have given this Name becauſe it has the Figure of a Man opening his Legs, for they call a Man *Ging*; its Root has a good deal of Reſemblance to the Mandrake Root, but that it is much ſmaller, and its Leaves ſhew very plainly that it belongs to another Claſs of Plants. Father *Martin*, indeed, who had ſeen nothing but the Root, makes it a Species of the Mandrake, in the Deſcription he has given in his Atlas of *China*; but the Reaſon of his falling into that Error, was his not having ſeen the Leaves, as he himſelf ſays. This Root becomes yellowiſh in drying; it has neither Fibres nor Filaments adhering to it, by which to draw Nouriſhment; it has a number of ſmall black Veins ſcattered all over it, and looking like ſo many Lines curiouſly drawn on it with Ink; when chewed it is diſagreeable, its Taſte being a Sweetneſs mixed with Bitter. *Pomet.*

It greatly encreaſes the vital Spirits, in a Doſe not larger than two Scruples; in a ſomething larger Doſe, it recovers Strength to People who are weak, and gives an agreeable Warmth all over the Body. They uſe it after a Preparation in *Balneo Mariæ*, which gives it an agreeable aromatick Smell: Thoſe who are of a hot and robuſt Conſtitution endanger their Lives if they take too largely of it, becauſe of the vaſt Effervеſcence it raiſes in the Spirits; but it does even Miracles for the

Weak and Feeble, and thoſe whom long Illneſs, or any other Accidents, often exhauſt of their Strength. It reſtores in ſuch a manner Strength and Spirits to People who are dying, as to give Time for other Remedies to cure them, and in *China* is worth three times its Weight in Silver.

The *Siam Journal*, ſpeaking of the Root *Niſi* or *Ginſeng*, ſays it is a ſmall Root which grows in *China*, in the Province of *Houn-amſout-chouan*, and that of *Couli*, and is not to be found in any other Part of the World: Its great Effects are the rectifying the Maſs of Blood, and giving Strength and Spirits to thoſe who have loſt them. The manner of taking it is this, they boil ſome Water, and throw into it the Root cut into thin Slices, and then cover the Veſſel and leave the *Ginſeng* in Infuſion; when the Water is but juſt warm, they drink it alone; this they do in the Morning faſting: The *Ginſeng* they take out, and keep it to uſe again: At Night they boil more Water, but only half as much as they did before, and put the ſame *Ginſeng* in again, covering the Veſſel as before; and when it is cold they drink it. After all this, they dry the *Ginſeng* in the Sun; and if there is Occaſion it ſerves them a third Time infuſed in Wine. The Quantity of *Ginſeng* put in is according to the Age of the Perſon it is for; for Perſons from ten Years old to twenty, they uſe each Time the Quantity of half a Soang; and from thirty to ſixty, ſeventy, or upwards, the Quantity of a Mayon; and more than this they never take.

CHAP. XII.

Of Birds-Neſts.

Pomet. THESE *Neſts* are found principally in *Cochin China*; they are excellent in Sauces, and good for the Health; when they mix the *Ginſeng* with them, they take a Fowl whoſe Fleſh and Bones are black, they gut it and clean it carefully; then they take ſome of theſe *Neſts*, which they ſoften with Water, and part into ſmall Threads; they then cut ſome *Ginſeng* into ſmall Pieces; and mixing all together, put it into the Body of the Fowl; they then ſow up the Fundament, and put the Fowl, thus prepared, into a China Veſſel, cloſe covered, which is put into a Pot of Water, and ſet on the Fire to boil: They keep this Pot of Water boiling, till the Fowl in the Veſſel within is enough; and after that, leave all together on the Remainders of the Fire all Night: In the Morning they take out the Fowl and eat it, *Ginſeng*, *Neſts*, and all, without either Salt or Vinegar; and when they have eat it up, they cover themſelves warm, and commonly get into a Sweat.

Rice may be alſo eaten boiled in the ſame manner in Water with the *Birds-Neſts* and *Ginſeng*: This they eat at Day-break, and, if they can, ſleep after it.

CHAP. XIII.

Of Sowbread.

Pomet. SOWBREAD, ſo called becauſe Hogs are very fond of it, is a large, thick, round Root, of a duſky Colour without, and white within; hung round with blackiſh Fibres. It contains a great Quantity of Oil and eſſential Salt. It grows in Woods and in watery Places.

Chuſe this Root new, and well fed: It is emetick, cathartick, and reſolvent; but is not much uſed except externally, or as an Ingredient in certain *Galenical* Compoſitions, as Ointments, Plaiſters, and others.

Lemery. *Sowbread*, called *Cyclamen orbiculato folio interne purpuraſcente* by *Tournefort*, and *Cyclamen Autumnale vulgare folio rotundo* by *Parkinſon*, is a Plant whoſe Leaves are roundiſh, of a greeniſh Brown, ſpotted with White on the upper ſide, and purpliſh underneath, ſtanding upon Pedicles; among theſe there riſe long tender Pedicles, which carry purple Flowers of an agreeable Smell; when they are fallen, they are ſucceeded by ſpherical membranaceous Fruits, which open in ſeveral Places, and contain angular Seeds.

The Root of it, which is large and thick, is what is uſed in Medicine: It is inciſive, deterſive, attenuating, and aperient; proper in the Stone and Obſtructions, to bring away the Afterburthen, and to diſſolve hard Swellings. It is uſed both externally and internally.

Great Care muſt be taken in drying it, elſe it will ſhoot, and even flower, when laid up for Uſe.

[This is the Root of the *Cyclamen orbiculato folio*, *Ger.* 694. *Cyclamen vulgare folio rotundo*, *Park. Parad.* 198. It is kept in Gardens, and flowers in *September*.

It is an Errhine, and, internally, has been known to do Service in Obſtructions of the Menſes, and other Caſes of a like Nature, but at preſent is ſcarce ever uſed or kept in the Shops.]

CHAP. XIV.

Of the Roſe *of* Jericho.

Pomet. THE *Roſe* of *Jericho* is not a Flower but a very ſmall Shrub, which throws out ſeveral Branches to the height of about four Fingers; they are woody, of an aſhy Colour, and divide afterwards into a multitude of Branches entangling themſelves one within another, and throwing themſelves together toward the Top in the Form of a Globe; its Leaves are an Inch or an Inch and half long, and half an Inch wide, cut at the Edges, and covered with a hairy Down; its Flowers are ſmall and white, and ſet as it were in Cluſters; its Seeds round, reddiſh, and of an acrid Taſte; and its Root ſingle, large, and woody.

It is brought to us from *Arabia Deſart*. I ſhall not trouble the Reader with the many Things which ſome Authors have diverted themſelves with obſerving in regard to this little Plant, leaving the farther Accounts of it to the Curious, as it has no Uſe in Medicine.

Lemery. The *Roſe* of *Jericho*, called *Roſa Hierachuntia* by *Caſpar Bacchine*, and *Roſa de Hiericho*, and *Roſa Mariæ Monachis* by *Lugdunenſis*, is a little Shrub in the Figure of a Ball as brought to us; but this it acquires in drying, for, while it is growing, its Branches are ſeparate from one another, but as it dries, the Branches entangle one within another, and their Extremities bending inward meet at one common Centre, and form of the Whole as it were a little Globe or Ball. It grows in *Arabia Deſart*, in ſandy Places, and on the Banks of the *Red Sea*, from whence we have it; and though its common Name be *Roſe* of *Jericho*, it is not a Roſe, nor is it found any where near that Place. It has been believed heretofore, that it never opened itſelf but on *Chriſtmas-day*; but we now are very ſenſible, that it will open at any time if it be put into Water, and ſuffered to remain there ſome little time, the Branches expanding by little and little, and affording a very pleaſing Sight: And when it is taken out of the Water, it dries and ſhuts itſelf up again as before.

It may ſerve for an Hygrometer; for being dry, it is very ſuſceptible of the Impreſſions of the Humidity of the Air; ſo that in a dry Seaſon it will be ſhut up cloſely, but as it becomes more or leſs wet, it will extend or expand itſelf: This may be the more eaſily perceived when it is expoſed to the Air, than when kept in a Chamber.

As to its medicinal Virtues, it is eſteemed good for the Scurvy, when taken in Powder or Infuſion, but I have never known it tried.

[This little Plant is the *Thlaſpi Roſa de Hiericho dictum*, *Hiſtor.* 328. *Roſa Hierachuntea vulgo dicta*, *C. B. Pin.* *Roſa Hierachontea*, *Lobel.* It is about four Inches high, the Leaves are like thoſe of the Olive, ſtanding ſingly at every Joint; the Flowers ſtand in the ſetting on of the Leaves, and are of a greeniſh White, and conſiſt of four Leaves; each of them is ſucceeded by a ſingle Capſula, containing Seeds like thoſe of the other *Thlaſpis*. In drying the Leaves generally fall off, but the Pods are frequently ſeen very fair among the dried Stalks.

The Experiments *Pomet* mentions Peoples diverting themſelves with about it are, its expanding in warm Water, which indeed is a very agreeable Sight.

It is of no Uſe in Medicine, and ſeldom kept in the Shops, but common in the Collections of curious Perſons.]

CHAP. XV.

Of Gum Guaiacum.

Pomet. IN the Chapter of *Guaiacum* Wood we made ſome mention of this Gum, but to what was there ſaid it is neceſſary to add, that, to diſtinguiſh it from *Colophony*, it need only be put to a Candle, or into the Fire, for, on burning, it yields an agreeable aromatick Smell. This Gum is brought to us from the *Weſt-Indies*, and ought to be in handſome Pieces, of a blackiſh or greeniſh Colour, tranſparent, and of an agreeable aromatick Smell.

It is ſudorifick, vulnerary, and anodyne, taken inwardly from a Scruple to a Dram, mixed with an equal weight of Sugar-candy: It is alſo good in Difficulty of Breathing, and in Aſthmas; in which Caſes it is common to add to it an equal Quantity of waſhed Sulphur, and mix them together into a Bolus with Syrup of Coltsfoot, and give them in the Morning for eight Days ſucceſſively, or longer if neceſſary; in ſhort, according to the Obſtinacy of the Diſeaſe, or Orders of the Phyſician.

Lemery. *Gum Guaiacum* is to be choſen clean, ſhining, and tranſparent, of a reddiſh brown Colour, brittle, of an acrid Taſte, and agreeable aromatick Smell when bruiſed or put to the Fire.

It contains a great Quantity of eſſential Salt and Oil.

[This

[This is the Gum, or rather Reſin, of the *Guaiacum* Tree, deſcribed in its proper Place: It flows either naturally from the Cleſts and Cracks in the Bark, and is then in Tears or ſingle diſtinct Drops, or by Inciſion, by which means it flows in much greater abundance, and is ſuffered to run into large Cakes of an irregular Shape. It is a noble Medicine, but ſo ſubject to Adulteration, that there is ſcarce any depending on it; that in Tears, however, is almoſt always genuine.]

CHAP. XVI.

Of the precious Boar-ſtone *of the* Eaſt-Indian *Wild Boar, and the* Malacca-ſtone, *or* Porcupine-ſtone *of the* Indies.

Pomet THE *Boar* or *Hog-ſtone*, which the *Hollanders* call *Pedro de Porco*, and which the *Portugueſe*, who firſt brought it into *Europe*, call *Pedro de Vaſſo*, or *Piedra de Puerco*, is a kind of *Bezoar* found in the Gall of the Wild Boars of the *Eaſt-Indies*. This Stone is generally of the bigneſs of the Hazel-nut, or of the End of ones Finger, of different Figures and Thickneſſes; but its general Colour is that of the *Toulon* Soap, that is, of a White with ſome caſt of Greeniſh in it; and it is ſoft in handling.

Theſe Stones, however ſcarce, are yet to be found in the Collections of the Curious. The Scarcity of it is ſo great, that in the largeſt Sales of *Eaſt-India* Drugs at *Liſbon* and *Amſterdam*, there are ſeldom above three or four of theſe Stones.

The *Indians* call theſe Stones *Maſheha de Soho* in their Language, and have a great Eſteem for them on account of their Virtues againſt Poiſon; and the People of the Kingdom of *Malacca*, where they are moſtly found, prefer them to the true *Oriental Bezoar*, though among the other *Indians*, that is eſteemed the beſt Antidote in Nature.

The *Pedro de Porco* is very ſcarce among the Merchants of *Holland*, and much more ſo among ours; whether it be that it is ſcarce in the *Indies*, or whether the Natives keep it among themſelves for their own Uſe, not only as a Preſervative againſt Poiſons, but alſo as a ſovereign Remedy againſt the Diſeaſe they call *Mordoxi*, which they are ſubject to from an irritated Gall, and which is as dangerous with them as the Plague in *Europe*.

When any of theſe Stones are brought into *Holland*, they ſell there for three or four hundred Franks apiece, and ſometimes more; but the wealthy Merchants moſt frequently keep them in their own Hands, either to make Preſents to People of Quality, or to uſe themſelves. They are generally ſet in a round gold Box pierced full of Holes, with a Chain of Gold faſtened to it to hold it by upon Occaſion.

There are ſome Families of Conſequence in *Holland* who preſerve this Stone, and have it from Father to Son for many Generations; and it ſerves all their Friends and Acquaintance when they have Occaſion. The principal Uſe of it among them is to cure Children in the Small-pox.

Many other Virtues are alſo attributed to it, againſt Fevers, and moſt of the Womens Complaints. The *Indians* have that Confidence in it, that they think it is ſufficient to touch it, to have Relief in all their Illneſſes. Women with Child, however, are not to meddle with it for fear of Abortion.

When this Stone is to be uſed, it is held a little while ſuſpended in a Glaſs of Wine or Water, to which it communicates its Virtues, with ſome degree of Bitterneſs, not altogether diſagreeable; this is to be drank in the Morning faſting, but may be taken at any Time on preſſing Occaſions.

Beſide the *Pedro de Porco*, there is another Stone, generally called the *Malacca-ſtone* or *Indian Porcupine-ſtone*, becauſe it is almoſt only in this Kingdom that they are found. Moſt People confound the *Pedro de Porco* with the *Malacca-ſtone*, becauſe of the great Reſemblance they have to one another, which I am certain of by that which I have in my poſſeſſion, which only differs from the *Pedro de Porcos* in Bigneſs, and in that it is ſomething more ſcaly, like the *Bezoar* and other ſuch Stones. Theſe Stones are found, but very ſcarcely, in the Gall, Stomach, and Head, of the Porcupines of the *Eaſt-Indies*.

This, as well as the *Pedro de Porco*, is often made a Preſent to Great Perſons in the Kingdom of *Malacca*, as alſo to Foreign Princes and Ambaſſadors. *Garcias* relates, that in his Time the Viceroy of the King of *Portugal* in the *Indies* kept by him one of theſe Stones, which had been preſented him by the then King of *Malacca*: From which we may learn what Eſteem thoſe Nations had for this Stone. This is the firſt kind of the *Malacca-ſtone*.

There is alſo another, which Mr. *Tavernier* mentions, and which is found in the Head of the Porcupine: But as I have never ſeen one of theſe, I ſhall forbear ſaying any thing farther about them.

After the *Oriental* and *Occidental Bezoar*, may be reckoned a third kind, called *Bezoar Porci, ſive Lapis Porcinus*: *Lemery.*

It is taken from the Gall of the Wild Boar, in *Malacca*,

Malacca, and ſome other Parts of the *Eaſt Indies*. It is commonly whitiſh or greeniſh, but ſometimes of other Colours; about the bigneſs of a Nut. The *Indians* have it in great Eſteem in the Diſeaſe they call *Mordoxi*, as alſo in the Small-pox, Malignant Fevers, Hyſterical Affections, and Suppreſſions of the Menſes.

[The *Pedro de Porco* and *Malacca-ſtone* are really but one and the ſame Thing, and that not found in the Boar but in the Porcupine. The different Size and Colour of the Stone, and the miſtaken and afterwards right Accounts of what Creature it was taken from, have occaſioned the Error of making two different Stones of it.

It is the *Bezoar Hyſtricum*, *Lapis Hyſtricis*, *Lapis Malacenſis*, *Lapis Porcinus*, *Mont. Ex.* 5. *Lapis ſeu Pila Hyſtricis*, *Ind. Med.* 45. It is found in the Gall-bladder of the Porcupine in *Malacca* and other Parts of the *Eaſt-Indies*, where that Creature grows to the bigneſs of a Pig of eight Months old, and is called by the Natives *Balatnamentinie*, *Hyſtrix. R. Syn. An.* 206. *Jonſ. de Quadrup.* 119. *Charlt. Ex.* 19. The Stone, as it is called, is rather of the *Ægagropilus* than *Bezoar* kind, being neither ſo hard, ſo firm, nor ſo heavy, as the true *Bezoars*, nor of the ſame regular laminated Structure. Its Virtues, though ſo highly extolled by the Natives and Merchants, and others who had them of them, are very much doubted by Men of Science: It is, however, of no great Conſequence, whether they are real or imaginary, as it is too ſcarce ever to come into Uſe in the Shops.]

CHAP. XVII.

Of the Serpent-ſtone.

Pomet. THE *Serpent-ſtone*, which the *Portugueſe* call *Cobra De Capello*, is found in the Head of a Serpent ſo called, becauſe he has on his Head a little Eminence in the form of a Hat. They ſay there is no Remedy ſo ſovereign as this Stone againſt the Bites of venomous Beaſts, for if put upon the Wound, it faſtens itſelf ſtrongly on, and draws out the Poiſon, of which, when it is full, it falls off again of itſelf, having no more Power to ſtay on; but if it be thrown into Milk, it diſcharges there the Poiſon it had imbibed, and recovers its former Virtues. Father *Kircher* ſays, that it was a long time before he would believe this, though he found it affirmed by Authors of Credit as a certain Truth, but that he was at length convinced of it, by an Experiment which he himſelf made of it, in the Preſence of many Perſons, on a Dog bitten by a Viper.

This Account is alſo confirmed, by a Relation ſent to the Prince *John Frederick* Duke of *Brunſwick* and *Lunenburg*, to whom all the Men of Learning in his Time ſent Accounts of what new Diſcoveries they made, not only becauſe he was curious, but becauſe he was a Maſter in moſt of the Sciences. *Tachenius*, in a Letter which he wrote from *Venice* on the 27th of *April* 1688, acquaints that Prince, that deſiring to make an Experiment in Tryal of the Virtues of one of theſe Stones which an *Armenian* had brought to *Venice*, he cauſed a Dog to be bitten in the Leg by a Viper; half an Hour afterwards, when they perceived by the Howlings of the Creature, and the ſwelling of the Limb, that the Poiſon had ſpread itſelf into the Veins, and cauſed the Creature great Pain, the Count *De Schlick*, before whom the Experiment was made, applied the *Armenian's* Stone to the Wound, and immediately it fixed itſelf ſo firmly on it, that there was no pulling it off: And upon this, the Creature ceaſed his howling. The Stone remained fixed in this manner on the Wound two Hours, at the end of which Time it fell off of itſelf, and was put into ſome Milk, which it impregnated ſo ſtrongly with the Poiſon, that a Dog that drank of it died the Night following.

It was then placed again upon the Wound; it faſtened itſelf again as before, but remained on now only half an Hour, and then fell off: Being again put into more Milk, it communicated the Poiſon to it alſo, but in a ſmaller degree; for at the Time of his writing that Letter, it was three Days ſince another Dog had drank of that ſecond Milk, and he was then living, and there appeared Hopes of his recovering entirely.

It was, after taking out of the ſecond Milk, applied a third Time to the Wound, but did not then faſten itſelf at all, there being then no Poiſon remaining in it.

Mr. *Tachenius* adds, that the Stone was round, black, of the bigneſs of a *French Sol*, but four times as thick; and that the *Armenian* ſaid, it not only cured the Bitings of mad Dogs and venomous Beaſts, but was alſo a ſovereign Remedy againſt the Plague.

There are two kinds of the *Serpent-ſtone*, the one natural, the other factitious; the natural Stone is found in the Head of a large Serpent very common in *Melinda*. As I never have been able to get one of theſe natural Stones myſelf, I ſhall here relate what Mr. *Tavernier*, the only Author I can find who has given a circumſtantial Account of theſe Stones, has ſaid of them.

" There is a kind of Stone, ſays he, which they " call the *Hat-Serpent-Stone*; this is a particular " kind

" kind of Serpent, which has in reality a kind of " Hat or Hood hanging down behind his Head; " and it is behind this Hood that theſe Stones are " found, the leaſt of which are of the bigneſs of " a Hen's Egg. Theſe Stones are found in none " of theſe Serpents that are leſs than two Foot " long; and if they encreaſe in Bulk as the Crea- " ture grows, there muſt of neceſſity be ſome of " an enormous Size; for in *Africa* and *Aſia* theſe " Serpents are ſometimes ſeen five and twenty " Feet long, as that was, the Skin of which is " preſerved at *Batavia*, which had ſwallowed a " Girl of eighteen Years of age."

The ſame Author obſerves, that this Stone is not hard, and that when ſtruck againſt another Stone, it throws off a kind of Slime, which being moiſtened with a little Water, and drank by any one who has any kind of Poiſon within him, has the Virtue of expelling it in a Moment: That theſe Stones are not to be had but by means of the *Portugueſe* Seamen or Soldiers who return from *Mozambique*. It is not of this Stone, however, that I intend to treat in the Remainder of this Chapter; but of that which makes ſo much Noiſe in the World, and of which ſo many extraordinary Virtues are boaſted, and which, though moſt People imagine to be a natural Stone, is really factitious, as will be ſeen by the Sequel of this Chapter.

Now I have ſhewn the high Eſteem in which this Stone is held, and the different Sentiments of different People about it, I ſhall add, that we are not to believe this Stone to be natural but factitious; and for the Proof of what I affirm, I ſhall add here an Account of what it is compoſed of, that thoſe who are deſirous of having it may make it themſelves, as I have done by ſeveral which I have now by me.

Take *French* Bezoar, one Ounce; Powder of Toads and of the Crayfiſh, prepared in the Month of *June*, of each half an Ounce; of Seal'd Earth, prepared in a Decoction of Scorzonera and Contrayerva Roots, one Ounce; Mineral Unicorn, one Ounce; reduce all theſe to a fine Powder, and make them up into a Paſte with the Jelly of Vipers made with a Decoction of Contrayerva, Snakewood, or *Virginian* Snakeroot, and form it into Troches of the bigneſs of a *French* Farthing, and of the ſame thickneſs; they may be made larger or ſmaller at pleaſure, but the *Indians* generally make them of about this ſize.

This then is the ſo much renowned *Serpent-ſtone*. Beſides the two Accounts already given of its Virtues, the following is what Mr. *Tavernier* has written of it.

" Finally I ſhall ſpeak of the *Serpent-ſtone*, which " is about the bigneſs of a *French* Farthing, and " ſometimes of a ſomewhat oval Shape, thick in " in the Middle, and growing thinner towards the " Edges. The *Indians* ſay they are formed on " the Heads of certain Serpents; but I am rather " of opinion, that it is the Prieſts of theſe Idola- " ters who make them believe ſo, and that the " Stone, as they call it, is really a Compoſition " which they make of ſome Drugs. But be that " as it will, the Stone has admirable Virtues in " extracting the Poiſon of venomous Bites: If the " Part where the Bite is be not much torn, an " Inciſion muſt be made in it, that it may bleed, " and afterwards, when the Stone is applied to " the Wound, it faſtens itſelf on, and never drops " off till it has imbibed all the Venom from the " neighbouring Parts. To cleanſe it afterwards, " they take Woman's Milk, or in want of that, " Cow's Milk; and after the Stone has been laid " in it ten or twelve Hours, it takes in all the " Venom the Stone had imbibed, and becomes " of the Colour or the Matter of an Impoſtume. " Having one Day dined with the Archbiſhop of " *Goa*, he took me into his Cabinet of Curioſi- " ties, where he had many curious Things; and, " among others, he ſhewed me one of theſe " Stones, and telling me its Virtues, added, that " it was but about three Days before, that he " had ſeen the Experiment made with Succeſs, " one of the People who was with him in a Jour- " ney having been bitten by a Serpent, and cured " by it. I have bought ſeveral of them, and " there are none but the Bramines who ſell them, " which makes me believe they make them. There " are two Ways of trying whether theſe Stones " are good and not adulterated; the firſt is, to " to put them in the Mouth, for if they are good, " they immediately riſe and faſten themſelves to " the Palate; the other is, to put them in a Veſ- " ſel of Water, and immediately, if they are not " adulterated, the Water begins to boil, little " Bladders ariſing from the Stone at the Bottom " to the Surface of the Water."

The *Serpent-ſtone*, *Lapis Serpentis* in *Latin*, is a flat Stone, ſometimes oval, but commonly roundiſh, thick in the Middle and thinner at the Edges, ſoft, and of a blackiſh Colour. Many Authors affirm, that it is found in the Head of a particular Species of Serpent; but the more modern Opinion is, that it is a Compoſition of ſeveral Drugs: But be that as it will, it is at preſent much eſteemed in many Places. *Lemery.*

It is a Remedy againſt the Poiſon of venomous Bites,

Bites, faſtening itſelf to the Wound by means of the Blood about it; and for that Reaſon, if there is no Blood about it from the Bite, it is neceſſary to make an Inciſion about it with a Lancet, and with the Blood that comes from that, the Stone will fix itſelf; and as it is an Alkali and Abſorbent, it naturally imbibes the Poiſon from the Wound, on which the Pain ceaſes. It falls off of itſelf when the Blood is dry, and furniſhes no more glutinous Matter to hold it on, and when it has imbibed the Acids of the Wound is encreaſed in Weight. After waſhing it in Milk, it is applied to the Wound again, where it faſtens itſelf not ſo firmly as before, becauſe there is leſs glutinous Matter to hold it, becauſe it is leſs alkaline, and becauſe there is leſs acid Matter in the Wound to hold it there. They continue waſhing and applying it again to the Wound till it will not ſtick on any longer at all; which is looked on as a Proof that all the Venom is drawn forth and the Perſon is cured.

The Virtues and ſurpriſing Effects of this Stone are atteſted by thoſe two great Naturaliſts, *Kircher* and Mr. *Boyle*, who both affirm, that they have ſeen it tried. I wonder it has not yet been tried on the Bite of a mad Dog, to ſee whether its Virtues would exert themſelves as powerfully in that as they are ſaid to do in other venomous Bites.

This Stone is alſo taken inwardly; they uſe ſuch ſmall Pieces of it thus as are not fit for the external Application. They infuſe it in Water, and take it to reſiſt Poiſon.

[There is a great Diverſity in the Opinions of the Learned about this Stone, as it is called, ſome affirming it to be natural, others factitious; ſome affirming the Certainty of its Effects, others doubting and denying them: But to ſet all right, it is to be obſerved, that there certainly is both a natural and a factitious kind of it, the natural is the *Os Capitis* of the *Cobras de Capello Luſitanis dictus*, *Garc.* *Serpens Indicus coronatus diademate ſeu conſpicillo inſignitus*, *R. Syn. An.* 330. *Vipera Indica vittata geſticularia. Cat. Muſ. Ind.* This is of a deep ſhining Brown, and marked at certain Diſtances with little Holes; and the factitious is made of calcined Bones and argillaceous Earth, and is firmer, heavier, and ſmoother on the Outſide; hence it is not wonderful if the Deſcriptions of Authors differ, who were perhaps deſcribing different Things; or if the Experiments of ſome ſucceeded, and thoſe of others did not; when ſome made them with the natural Bone, and others with the factitious. The factitious are of various Sizes, Shapes, and Colours, as ſome of them have been made by Perſons who never ſaw one of the natural ones; and others by thoſe who have faſhioned them exactly according to a natural one, which they have kept as a Pattern. I remember to have once ſeen two of them in the Hands of a Perſon who traded in Rhubarb and ſome other Drugs from the *Eaſt-Indies*, the one of which was as big as a Wallnut, of a duſky Colour, and ſeemed an argillaceous or cretaceous Earth; and the other black and poliſhed, which ſeemed made according to the niceſt of all the Adulterations of it, of the Bone or Horns of ſome Animal burnt to a Blackneſs. The true and natural one I never yet ſaw.]

CHAP. XVIII.

Of the Foſſil *or* Mineral Unicorn Horn.

IT is not without Reaſon that the *Indians* make this Stone an Ingredient in the *Snake-ſtone* before treated of; however, as it is a Drug ſo little known, and of which ſo few Authors have written, I ſhall add here what *Wormius* has written of it, that Phyſicians may know it, and bring it into Uſe.

The *Foſſil Horn*, called *Ceratites* by *Gerner*, *Foſſil Ivory* by *Cluſius*, *Arabian Stone* by *Ciſalpinus*, by ſome *Petrified Elephants Tooth*, and by others *White Steinmark*, has had all theſe Names given it by Authors, according to the various Forms it has in different Places appeared in.

It has great Affinity to ſome of the Kinds of *Oſteocolla*, and has therefore by ſome been placed among the ſofter Stones.

It is a ſtony Subſtance, ſometimes reſembling a Horn in its Colour, Smoothneſs, and Shape; ſometimes harder, ſometimes ſofter, covered with an outer Cruſt, which is yellowiſh, black, or aſh-coloured, and very hard, and filled within with a ſoft, white, light, friable Subſtance, compact and without Pores, aſtringent to the Taſte, and drying, ſticking firmly to the Tongue, and of an agreeable Smell: It is found in *Italy*, and many Parts of *Germany*, *Moravia*, *Sileſia*, and *Saxony*.

Boetius gives this Account of the Matter and original Formation of it. "I take, ſays he, the "productive Matter of theſe Horns to be a Marl "of ſome kind, which is diſſolved in the Bowels "of the Earth by ſubterraneous petrifying Waters, "and flows like Milk through the Cavities of the "Earth, in which, if the adventitious Water be "abſorbed by the circumjacent Earth, or find "Ways of running ſeparately off, the heavier and "firmer Parts filling up thoſe Cavities remain in "them, and coaleſce by degrees as the Humidity "gets

"gets off, and takes the Form of a Stone or "Horn, or only of a Marle, as before, according "to the greater or leſſer degree of petrifying "Power the Water it was diſſolved in, was en-"dued with. This is the Reaſon why ſome Pieces "of it are found large and thick, others ſmall and "ſlender. But if this lacteous Humour does not "fall into a Cavity of the Earth, but into ſome "Piece of Wood already deprived by Time of "its own Juices, and inſinuates itſelf into its light "and porous Subſtance, and there the more fluid "Parts run off, and the marly remain behind, it "makes an entire Change in the Wood, and aſ-"ſimulates all its Parts to its own Subſtance; yet "leaves it ſo much of itſelf, that the Species of "the Wood may ſometimes be known, and its "natural Odour yet remain in ſome degree in it. "What in this Syſtem happens to Wood, may "alſo happen to Ivory, or Stags Horns, or other "Parts of Beaſts, if they chance to lie in the way "of this Fluor, and be in a Condition to receive "it into their Pores."

This Hypotheſis ſeems entirely conformable to Truth, for the Virtues of this foſſil Horn are the ſame with thoſe of Marls, Boles, and Seal'd Earths; and what others imagine of the Horns of Unicorns diſperſed into various Places at the Time of the Deluge, and changed into their Texture by Bitumens, ſtony Subſtances, Ambers, *&c.* carries little or no Probability with it.

The *Foſſil Unicorn's Horn* is eſteemed good in all malignant Diſeaſes, the Plague, Malignant Fevers, and Poiſons, like the *Terra Lemnia*; it ſtrengthens the Heart, and preſerves it from Malignity, and expels malignant Humours by Sweat: The Doſe is a Dram, in Wine or any appropriated Liquor; or in Syncopes, Tremors, *&c.* a Scruple only, in ſome appropriated Liquor: It is alſo ſaid to be good in Epilepſies, to deſtroy Worms, ſtay Fluxes and Hæmorrhages of all kinds, and for Runnings of the Eyes, mixed with Milk, and inſtilled into them; as alſo, by its aſtrictive and drying Qualities, to bring Ulcers to cicatrize, and to cure Gallings and Burns.

It has, however, been very juſtly obſerved, that it is not to be expected that every Piece of this Foſſil ſhould poſſeſs all thoſe Virtues, as there is a vaſt Diverſity between different Pieces of it; and as they differ plainly in Form, Origin, and Subſtance; they very well may be ſuppoſed to differ alſo in their Virtues.

Such of them as are hard like a Stone, and have no internal ſofter Parts, nor any Smell, have ſcarce any other Virtues than merely thoſe of drying. Such a Piece I have in my poſſeſſion, which is hard as a Stone, ſolid, heavy, and carrying the Appearance of a piece of Aſh-wood; for the Veins, Striæ, and Laminæ it is compoſed of, are ſo marked with Knots and knotty Foramina, that it plainly has the external Appearance of a piece of Aſh; for which Reaſon I have choſen to range it among the petrified Woods, rather than the foſſil Horns. It has no Smell, nor any aſtringent Virtue.

Thoſe which have the Virtues before mentioned, are ſuch as are eaſily reduced to Powder, are ſoft, and adhere to the Tongue; and particularly, thoſe which have an agreeable Smell are commended for Cardiacs, to ſtrengthen the Heart, and defend it from Malignity. If the Subſtance of them before the Tranſmutation was a Part of the Stag or Elephant, or of the Aſh or Walnut Tree, or any other Matter good againſt Poiſons, this Foſſil then poſſeſſes the Virtues of expelling and reſiſting Poiſons; and the more ſo, if the Smell of the tranſmuted Subſtance be yet perceivable in it, as the Virtues of the original Subſtance are then judged not to have periſhed, and to be greatly exalted and improved by the adventitious Matter.

Some Fragments of this kind I have by me, one, of the thickneſs of an Arm, three Inches long, and two and a half in diameter; the external Coat of which being taken off, the internal Subſtance is very white, ſtaining the Hands white in handling it, with blue and browniſh Veins running longitudinally in it, adhering to the Tongue, and reſembling burnt Hartſhorn: This is of the weight of five Ounces, and I judge it to be of the beſt kind.

Another kind I have, which is of an Aſh-colour, more compact than the former, but ſoft, and of an agreeable Smell, looking like burnt Hartſhorn, and very aſtringent.

A third in my poſſeſſion is brown, its external Coat tending to Blackneſs, ſomething harder than the other, but yet eaſily ſcraped with a Knife, light, aſtringent, and not ſo brittle as the other: This much reſembles burnt Ivory.

Another brown one I alſo have, but marked with black, white, and yellow Veins, running longitudinally; this is of the length of a Finger, weighing five Drams; it is brittle, ſandy, like ſome kind of Wood, of an agreeable Smell, and ſtrongly aſtringent: This alſo I judge to be of the better kind. So far *Wormius*.

This Foſſil gives me Occaſion to ſpeak of a white Earth, which is found on the Side of the Seigniory of *Moſcau*, belonging to the Elector of *Saxony*, which the Inhabitants of the Place uſe to

make Bread, mixing it with Wheat or other Flour: It is alſo found at *Gironne* in *Catalonia*. It is this white Earth which is commonly called *Steinmark*, or *Medulla Saxorum*.

It is to be be obſerved, that they do not uſe all this white Earth to make their Bread with, but only certain little Protuberances, white, and like Meal, which throw themſelves out of that Earth when the Sun has heated it.

[This is the *Unicornu foſſile*, *Boc. Muſ.* 62. *Cornu foſſile*, *Charlt.* 23. *Cornu foſſile vulgo Monocerotis Cornu*, *Boet.* 425. *Ceratites*, *Ald. Muſ. Met.* 63. *Genſ. Lap.* 154. *Ebur foſſile*, *Cluſ. Exot.* 168. *Lapis Arabicus*, *Cæſalp.* 611. It is often dug up in the Form of Bones and Teeth, particularly of the *Dentes molares*, in which one may perfectly diſtinguiſh between the Root of theſe Teeth and that Part of them which was above the Gums; which makes it unqueſtionable, that they are really Petrifactions. *Wormius* has very judiciouſly diſtinguiſhed the Kinds of moſt Virtue, but at preſent none of them are uſed or kept in the Shops.



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b. signifies Book, f. Figure, v. Volume.

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